DOCUMENT RESUME

ED 164 807	08	CE 018 243

AUTHOR	Villoni, Shirley
TITLE	Project CLIMB (Career Ladder Infusion Model Building). [Volume I: Final Report, 1977-78].
INSTITUTION	Garden Grove Unified School District, Calif.
SPONS AGENCY	Office of Career Education (DHEW/OE), Washington, D.C.
BUREAU NO	502A970002
PUB DATE	30 Jun 78
GRANT	G391-75-0038
NOTE	744p.; Not available in hard copy due to reproducibility problems
EDRS PRICE	MF-$1.33 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	Academic Achievement; Algebra; American History; Attitude Tests; Behavioral Objectives; Career Awareness; *Career Education; Career Exploration; *Career Ladders; Civics; Composition (Literary); *Curriculum Development; English Literature; Field Studies; *Fused Curriculum; Geometry; Instructional Materials; Learning Activities; Mathematics; Maturity Tests; Models; Occupational Choice; Occupational Clusters; Program Evaluation; Project Applications; Secondary Education; Spelling; Staff Improvement; Vocabulary; World History

ABSTRACT

A project was designed to develop, field test, and publish a career infusion unit curriculum for grades 10-12 in the Garden Grove Unified School District. Students at one project school, two transport schools, and a comparison school formed the study sample. A third party evaluated the accomplishments of objectives for the following program components: instruction, staff development, parent-community, guidance, evaluation, project management, and curriculum development. The one project and two transport groups exceeded the comparison group's scores on the English section of the Comprehensive Test of Basic Skills (CTBS). Second-year students scored significantly higher than first-year students on the attitude section and two parts (knowing about jobs and choosing a job) of a career maturity inventory. The report contains curriculum materials for the following areas: English Literature II, English Composition II, Algebra I, World History, Essentials of Composition, Geometry, U.S. History, Civics, Senior Math, English Composition--Advanced, and Spelling/Vocabulary. Materials contain curriculum concepts and objectives, career concepts and objectives, activities, and resources. General supplemental activities and career cluster information are appended. (CSS)

****
*   Reproductions supplied by EDRS are the best that can be made   *
*   from the original document.   *
****

ED164807

FINAL REPORT

Project No. 502A970002
Grant No. G391-75-0038

Project CLIMB
CAREER LADDER INFUSION MODEL BUILDING

Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

Shirley Villoni
Garden Grove Unified School District
10331 Stanford Avenue
Garden Grove, California 92640

June 30, 1978

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CE 018 843

TABLE OF CONTENTS

Page

Cover Page i

Title Page ii

Table of Contents iii

List of Tables and Figures v

Report Summary

- (a) Time Period 1
- (b,c) Goals and Objectives 1
- (d) Results: Accomplishments 2
- (e) Evaluation 2
- (f) Conclusions and Recommendations 2

Body of Report

- Accomplishments
  - (i) Problem Area 3
  - (ii) Specific Goals and Objectives 4
  - (iii) Result Summary 5
- Major Activities and Events 8
- Problems 10
- Publicity Activities 12
- Dissemination Activities 12
- Data Collection and Evaluation 13
- Staff Employment and Utilization 16
- Staff Development 17
- Conclusion Summary 17

TABLE OF CONTENTS - cont.

Page

Appendices

Publicity Activities 20

Project CLIMB Evaluation Designs

Project School 40

Transport School 44

Teacher Career Education Survey 47

Table 1 49

Table 2 50

Table 3 51

Table 4 52

Table 5 53

Table 6 54

Table 7 55

Table 8 56

Table 9 57

Table 10 58

Table 11 59

Curriculum Materials 60

LIST OF TABLES AND FIGURES

	Page
Figure 1	6
Figure 2	7
Table 1	49
Table 2	50
Table 3	51
Table 4	52
Table 5	53
Table 6	54
Table 7	55
Table 8	56
Table 9	57
Table 10	58
Table 11	59

Summary of the Report

This report covers the period July 1, 1977 through June 30, 1978, and is for the third funded year. The project had been funded as follows:

Year	Funding
1975-76	$56,142.00
1976-77	$56,142.00 (plus $4,558 carryover)
1977-78	$78,142.00 (plus $977 carryover) $64,713 (project) $14,406 (transport)
TOTAL FUNDING	$190,426.00

In addition to monies provided by the project, the district contributed secretarial assistance and consultant help from district vocational/occupational teachers and staff.

During 1977-78, 82% of the budget was expended for personnel and fringe benefits at the project school; 85% at the transport schools. The remaining monies were allocated to travel, supplies, evaluation, and indirect costs.

The purpose of the project was to develop, field test, and publish a career infusion unit curriculum made for grades 10-12 in the Garden Grove Unified School District.

The major focus was on (1) teacher orientation to and training in career education; (2) preparation of career units and materials; (3) field testing, revision and publication of a curriculum; and (4) evaluation of project efforts. During this third year two transport schools were added to field test dissemination of the concepts and materials developed during the first two years. Orientation was provided to transport teachers. The final document described below was the cooperative effort of both project and transport teachers.

As in previous years, evaluation findings were positive. Greatest gains on the CMI were on the subtest "Knowing About Jobs" for both project and transport schools. "Looking Ahead", Part IV, showed the next greatest gains. It was found that adding career units to the curriculum led to no significant change in CTBS scores, indicating that other course content was not neglected.

One-hundred percent (100%) of the students had an opportunity to choose areas of career interest for further study. Sixty-seven percent (67%) of the project students were able to follow up on their interest at field sites in the community. Although Advisory Committee attendance was somewhat below expectancy (63% of the members attended 75% of the meetings) the group assisted as liaison in setting up career exploration sites in the community.

Over eighty percent (80%) of the new teachers exceeded 75% on a test of career information this year. They developed 31 new units and helped revise 46 units previously prepared. The transport teachers were particularly instrumental in materials and curricula revision.

The final curriculum model is now available, encompassing 483 pages. The completed publication includes 77 units in 11 subject matter areas. Two Appendices provide (A) Supplemental Activities which might be incorporated in any subject area, and (B) Career Cluster Information. An integratory matrix shows the materials developed by course.

The materials have now been used successfully in 3 high schools in the district. With the program of orientation and staff devleopment the model is considered to be complete.

Body of the Report

(a) Accomplishments

(i) Problem Area Addressed

Project CLIMB (Career Ladder Infusion Model Building) was designed to develop a model for career education in grades 10-12 for the Garden Grove Unified School District. It was hoped that ultimately the model could be extended downward to grade nine and then through the elementary grades to kindergarten. It is part of a total commitment by the Garden Grove School Board to career education. The Board adopted a policy statement, cooperatively developed with the community, the district, the teaching staff, and other district personnel. The Board's commitment is reflected in the fact that 9,500 of the 14,500 high school students are currently enrolled in some vocational or career program. While career guidance centers had been established in all high schools and there was a district vocational and career education specialist, there had been no articulated career education program in the curriculum. The district, therefore, applied for funding under the Vocational Education Act for project CLIMB to develop a curriculum model.

According to the original proposal (pp. 5-7), the project was to design and implement a career education infusion model, using an interdisciplinary approach through the core subjects English, math, and social studies.

The need for infusion units in the curriculum had been identified as a priority need in California by the Guidance Task Force appointed by Superintendent of Public Instruction Wilson Riles. The published report of the findings, Pupil Personnel Services in California Public Schools: Needs, Problems, and a Plan for Solutions, 1975, noted that career planning was one of the primary needs reported by the 55,000 students, K-14, who responded to the State needs assessment. The American Institutes for

Research in Palo Alto, California, published Career Education: A Curriculum Design and Instructional Objective Catalogue which pointed out the following desirable characteristics essential to a career education curriculum: (1) economically feasible; (2) predicated on regular classroom staffing patterns; (3) contained within the current allocation of teacher time and efforts; and (4) amenable to local needs, interests, and options. The model in this project was designed to meet all of these four criteria.

In 1977-78, after two years of operation, the project was given additonal funds to develop a transport model. The initial program at Pacifica High School was extended to Santiago and Bolsa Grande High Schools. The purpose of the transport model was to determine if materials and processes developed at Pacifica High School could be transported successfully to other schools in the district.

(ii) Program Goals and Objectives

At Pacifica High School the primary objective was to develop the career infusion units to be taught in the regular English, math, and social studies classes. Career infusion units were defined as materials which could be integrated into the regular curriculum of the district. The objective was to develop units that would be a congruent part of the school curriculum using adopted or supplementary materials. Teaching was intended to provide enrichment, breadth and depth. Each unit included career concepts and objectives, and proposed activities or sources from which teachers could select materials. Many units included supplementary worksheets. All of the materials were integrated into grade level guides which minimized repetition among the units. During the first year the focus was on the 10th grade and during the second year the 11th grade was added. The 10th grade was dropped and the 12th grade was added at the project school during the third year. As each set of materials was completed, they were revised and prepared in publishable form.

A major focus of the project was staff development. Teachers were first helped to understand the curriculum concepts which were to underlie all of the units. They were then helped to write the units and to field test what had been written in their own classes. Teachers were expected to score 75% or better on a project-developed test on the information which was to be taught to the students.

Staff development in the transport schools focused on implementation of materials that had been previously prepared in the project school. Teachers were encouraged to use their own styles of teaching and to adapt the prepared materials to their own curricular goals and objectives.

Finally, the project included an objective to offer exploration of the world of work through experiences in the community. The intent was to help students to understand themselves, jobs, and job opportunities in order to help them make intelligent career choices when they left high school. The major activity for this objective, field trips, were arranged in cooperation with community agencies. In some cases guest speakers were also brought to the campus. While this objective was fully implemented in the project school, it was carried out to a less extent in the transport schools.

(iii) Summary of Results

Garden Grove Unified School District
Project CLIMB

FIGURE 1

SUMMARY OF RESULTS FOR PROJECT SCHOOL

Component	Abbreviated Objective	Criterion Level	Level Attained	
INSTRUCTION	1.0 Project participant mean scores on the Career Maturity Inventory will exceed the 50th percentile by May, 1978.		GRADE	
			11	12
			Percentile	
	Attitude Scale	50%ile	.51	.45
	Part I -- Knowing Yourself	50%ile	.40	.44
	Part II -- Knowing About Jobs	50%ile	.51	.55
	Part III -- Choosing a Job	50%ile	.36	.36
	Part IV -- Looking Ahead	50%ile	.52	.42
	1.1 Participants will equal or exceed mean gains of a comparison group on the C.T.B.S., Form S, Level 2. (Differences will be insignificant.)	Differences		
	English------------Grade 11	.01 significance level		
	English------------Grade 12	Not significant		
	Math---------------Grade 11	Not significant		
	Math---------------Grade 12	Not significant		
	Social Studies-----Grade 11	Not significant		
	Social Studies-----Grade 12	Not significant		
STAFF DEVELOPMENT	2.0 Participating first year staff will score 75% on a project-developed Teacher Career Survey.	Percentage		
		75%	82%	
CURRICULUM DEVELOPMENT	3.0 Twenty career infusion units will be prepared, field tested, and accepted by May, 1978.	# of Infusion Units		
		20	31	
	3.1 Units previously prepared will be revised, field tested, and accepted.	Percentage		
		100%	100%	
PARENT-COMMUNITY	4.0 The Advisory Committee members will have attended 75% of the meetings, and will have reviewed project materials.	Percentage		
		75%	63%	
PROJECT MANAGEMENT	5.0 The project will be implemented as written in the USOE guidelines.	Percentage		
		100%	100%	
GUIDANCE	6.0 80% of the participants will be involved in community exploration.	Percentage		
		80%	67%	
	6.1 100% of the participants will be involved in decision making through the infusion units.	Percentage		
		100%	100%	
EVALUATION	7.0 Reports will be filed with USOE as required.	Percentage		
		100%	100%	

---

*46 units were revised by teachers at the transport schools

PYK: 4/26/78

Garden Grove Unified School District
Project CLIMB

FIGURE 2

SUMMARY OF RESULTS FOR TRANSPORT SCHOOLS

Component	Abbreviate Objective	Criterion Level	Level Attained	
			GRADE	
			10	11
			Percentile	
INSTRUCTION	1.0 Project participant mean scores on the Career Maturity Inventory will exceed the 50th percentile by May, 1978.			
	Attitude Scale	50%ile	.49	.45
	Part I -- Knowing Yourself	50%ile	.49	.37
	Part II -- Knowing About Jobs	50%ile	.67	.56
	Part III -- Choosing a Job	50%ile	.54	.43
	Part IV -- Looking Ahead	50%ile	.62	.49
	1.1 Participants will equal or exceed mean gains of a comparison group on the C.T.B.S., Form S, Level 2. (Differences will be insignificant.)	Differences		
	**English--------------Grade 11	Between .01 and .05 sig.		
	**Social Studies-------Grade 11	Not significant		
		Percentage		
STAFF DEVELOPMENT	2.0 Participating first year staff will score 75% on a project-developed Teacher Career Survey.	75%		89%
		Percentage		
PARENT-COMMUNITY	4.0 Members will be added to the Advisory Committee to represent the transport schools.	100%		100%
		Percentage		
GUIDANCE	6.0 100% of the participants will be offered an opportunity to go on career-oriented field trips.	100%		100%
		Percentage		
EVALUATION	7.0 Reports will be filed on time with USOE as required.	100%		100%

---

*No objectives were written for Curriculum Development (3.0) or Management (5.0) for transport schools.

**Transport, full year; comparison, one semester only.

PYK: 4/26/78

Major Activities and Events

In the instructional component the focus of activities was on the teaching of infusion units in the classroom. This was true of both the project and transport schools. In the staff development component, project school activities focused on both developing the units and providing orientation. At the transport schools, orientation emphasis was on adapting the materials to the existing curriculum.

The management component included selecting and testing project, transport and comparison groups; screening students for field experiences as appropriate; and providing liaison with the community and the district consultants with special expertise in career education. Field trips were carried out in cooperation with community agencies. The Chamber of Commerce was especially helpful during the initial year. A number of sites were developed for groups of students ranging in size from 5 to 60. All levels of career development were available from beginning awareness and exploration to real job orientation.

During 1977-78 the participants consisted of students at Pacifica High School and in the two transport schools of Santiago and Bolsa Grande. All students were scheduled into English, mathematics, and social studies for the infusion units. A duplicated count of these students by courses is as follows:

PACIFICA HIGH SCHOOL (Project)

	No. of Students	
Subject	First Semester	Second Semester
Essentials of Composition	11	12
English	113	18
Civics		120
Senior Math		183
Advanced Composition	3	46
Spelling and Vocabulary	74	51
U.S. History	70	
Geometry	35	9

BOLSA GRANDE (Transport)

Subject	No. of Students First Semester	 Second Semester
Algebra	39	19
U.S. History	3	39
World History/Geography	49	2
English II	50	2
Essentials of Composition	1	53
Geometry	28	21

SANTIAGO (Transport)

Subject	No. of Students First Semester	 Second Semester
Algebra	61	19
U.S. History	1	23
World History/Geography	120	3
English II	153	5
Essentials of Composition		18
Geometry	25	16

Garden Grove High School was selected for the comparison population. The students received pre and post testing but were given none of the project career education teaching. Distribution of students for the comparison school is shown below:

GARDEN GROVE HIGH SCHOOL

Subject	No. of Students First Semester	 Second Semester
Essentials of Composition	11	12
Advanced Composition	25	18
Civics		113
Spelling and Vocabulary	28	20
U.S. History	132	
Geometry	18	2

In each school project activities were coordinated by the principal or his designee:

Principal	Project Role	School
Ronald Walter	Project	Pacifica High School
Glenn Gwynn	Transport	Santiago High School
Roger Braasch	Transport	Bolsa Grande High School
Jay Reed	Comparison	Garden Grove High School

Project teacher - specialist Jim Morrison served as liaison among the schools and worked directly with the teachers involved in the project at each site. A project teacher was available two periods a day to coordinate field trips and assist in securing guest speakers for those classes involved in the project at the project and transport schools. Two project teachers served as project leaders at the transport schools, Tom Anderson at Santiago and Homer Delabar at Bolsa Grande. Six teachers at each site were involved in the project and were either given released time or worked overtime to prepare and revise the career infusion units which were taught in the classroom.

An activity unique to the third and final year of operation was development of the transport school program.

Orientation was given to career education and infusion unit concepts. The project-developed curriculum materials were presented. Teaching practices were demonstrated. Transport teachers revised materials or made suggestions in revisions in the publication. The third year resulted in the final revised curriculum guide.

A new evaluation design was created for the transport schools. It was essentially a modification of the project design.

Problems

1. A major difference in attitude was found between project and transport teachers. From the standpoint of the project teachers, the project was "theirs." This was not totally felt by the transport school teachers.

The transport schools were in their first year, the project school in their third.

2. Because of a change of personnel in the District Office, selection of the transport and comparison schools, personnel, the time for staff orientation and inservice for the transport schools occurred late. The teacher specialist thought that the additional lead time for technical assistance would have been helpful to the transport schools.

3. The transport teachers pointed out a major problem in previously developed materials. In the original documents, there was much repetition. As a result of the experience with transport teachers, it was noted that repetition could be avoided by taking out common elements and putting them in a section by themselves. Thus, the unique materials in relationship to each subject matter were presented by subject matter topics, and the materials in common were presented only once. Common materials included resource materials and such activities as how to apply for a job. Those items which had been put into several different units were pulled out and identified as available for use in conjunction with any of the units. In the completed volume, Appendix A is labeled "Supplemental Activities" and it is noted in the introduction that they are placed without regard to a particular course or occupational cluster. A second appendix, B, contains career cluster information.

4. Because the task of helping transport teachers to understand and accept the project was more time consuming than had been projected, insufficient staff time was allocated. One teacher specialist attempted to do in 3 schools what he had done in 1. Continuous review and revision took place in all schools, and the expected reduction in time with the project school did not materialize. In planning for dissemination, both personnel as well as staff development need should be re-appraised in the light of this year's efforts.

Publicity Activities

The following publicity was given to this project:

Student information item, Pacifica High School
Article in the Garden Grove Chamber of Commerce Journal
Article in Parent Newsletter, Pacifica High School, October 1975
Letter from Garden Grove Chamber of Commerce mailed to 1,500 businesses in Garden Grove
Article in the Garden Grove Chamber of Commerce Journal
Article in the El Corriente student newspaper, Pacifica High School
Article in the Garden Grove Unified School District Vocational Education Newsletter, December, 1975
Article in Parent Newsletter, Pacifica High School, December, 1975
Newspaper article in the Buena Park, California News - Independent
Newspaper article in the Huntington Beach, California Independent
Newspaper article in the Orange County Evening News
Article in the Garden Grove Unified School District's Focus
Article in Parent Newsletter, Pacifica High School, October, 1976
Article in the Garden Grove Unified School District's Vocational Education Newsletter, October, 1976
Article in the California State Department of Education's Vocational Education News
Article in the student newspaper, Pacifica High School
"Spin the Topics," a circle talk, Career Education and Economics Awareness Conference, San Diego, California

The project site was visited by:

A psychologist from Pajaro Valley Project HOLD, Watsonville, California
A counselor from Heritage Schools, Anaheim, California

Dissemination Activities

Overviews of the project were mailed to:

Career Specialist, Napa High School, Napa, California
Director of the Merced County ROP, Merced, California
Supervisor of Business and Office Education, State Department of Education, Hartfield, Connecticut
Simi Valley School District, Simi Valley, California

Overviews and sample curriculum units were distributed at the Career Education and Economic Awareness Conference in San Diego, California

Copies of completed curricular units were distributed to the English, mathematics, and social studies departments at the eight high schools in the Garden Grove Unified School District

Presentations were made at:

Part D, Region IX Conference, Huntington Beach, California
Job Search Workshop, Employment Development Department, Garden Grove Office
Career Education and Economic Awareness Conference, San Diego, California

Data Collection and Evaluation

Two evaluation designs are attached in the Appendix. They show the relationship among objectives, the evaluation questions to be asked, data sources, instrumentation, sampling, and data analysis design. The design summary for the project school was printed on white paper and for the transport schools on yellow paper. The primary difference between the two is that the transport schools were involved in implementation, not in infusion unit writing. The format used for the two designs is that recommended by the U.S. Office of Health, Education and Welfare in their publication Evaluation and Educational Decision Making.

Three primary questions were posed for students:

1. How much did participants learn about jobs, themselves, and career planning as compared with the normative population of the test?
2. Did project students do as well as comparison students on standardized achievement tests in those subject areas into which career units had been fused?
3. Could students identify a job interest and be given an out of school experience in it?

For teachers the primary questions were:

1. Were they able to prepare the infusion units?
2. Had they learned the career education content which they were to teach the students?

A summary of the answers to the questions posed is presented below, and along with Figures 1 and 2 summarize the results for the objectives as written.

Questions	Answers
1. How much have participants learned about jobs themselves in career planning compared with the test scale and norm population?	11th grade project students exceeded the 50th percentile on national norms for the attitude Part II of the Career Maturity Inventory. 12th grade exceeded norms on Part II, also. In transport schools the 10th grade exceeded the 50th percentile for Parts II, III, and IV; the 11th grade, for Part II. (See Figures 1 and 2.) Part II, "Knowing About Jobs", showed the greatest gains among the groups tested.
2. Will students do as well or better than comparison students in the subject areas into which career units have been infused?	There were no significant differences between project and comparison students or between transport and comparison students for all subjects and grades except for 11th grade English, where project students did better. Students did as well or better than the comparison students; their learning was not impaired by adding infusion units. (See Figures 1 and 2.)
3. Will teachers learn career education content through orientation, preparing infusion units, and teaching the units?	On a 25-item test based on the content of the Career Maturity Inventory, project teachers scored at the 82nd percentile, transport teachers at the 89th percentile, exceeding the criterion level of 75%. It appeared that teachers did learn the content which they were to teach. (A copy of the test is in the Appendix.)
4. Can classroom teachers write, field test, and revise infusion units as described? (Project schools only)	Teachers wrote 31 new units, exceeding the criterion of 20. They also revised 46 units previously prepared.
5. Will a representative group of persons be willing to involve itself in helping with the project?	The Advisory Committee was expanded. The members met slightly less often than the criterion level (members attended 63% of the meetings). The group served as liaison with the community in arranging for field trips.
6. Can all students identify an interest in the world of work?	Students were able to make choices according to their interests.

7. Can students view the world of work in their community?	Sixty seven percent (67%) visited field sites selected according to their interests.
8. Will all data be available that are needed to answer the questions posed?	All questions posed by the design could be answered. The project sent quarterly reports to Washington and prepared the data on the basis of which this report was made available.

The third party evaluator prepared Figures 1 and 2 to summarize data required for the objectives. In addition, data were processed by sex, subject area, and years of participation in the program. (See Tables 1 through 11 in the Appendix.)

Sex differences were noted on the CMI, as in previous years. More females than males met the criterion level in both project and comparison groups. On the CTBS, where no differences were expected between groups, little male or female difference was noted. Only in English did the project and transport pupils exceed the comparison group, and this was true for both male and female.

Students in the program for 1, 2 or 3 years were compared on the CMI. While the number was 102 for first year students, the number had dropped to 30 for second year and 13 for third year students. This limits conclusions because it is not known what differences there are between those who stayed and those who dropped out.

Second year students scored significantly higher than first year students on the Attitude Scale, Part II and Part III. Third year students scored significantly higher than first year students on the Attitude Scale, Part I and Part III. It can be noted in Table II that although these are the only significant differences, there was no exception to the increasing mean scores for years 1, 2 and 3 for all parts of the test. It might be expected that with a more stable population (less mobility) and a larger number that a greater number of significant differences would be found.

Staff Employment and Utilization

During the first year of the project, the project staff consisted of a full-time project specialist and three teachers from the areas of social studies, mathematics, and English. The teachers served as work experience coordinators in developing work and exploration sites. The teachers worked extra duty during the summer and had released and extra duty time during the 1975-76 school year to write, test and revise the career infusion units taught during the 1975-76 school year.

In the 1976-77 school year the project specialist worked with three project work experience teachers on internship activities and six project teachers at Pacifica had extra duty time to prepare and revise the career infusion units which they taught in their classroom.

During the final year the project specialist directed the project at the project school and at the two transport schools. Also involved was a work experience teacher who worked on internship activities two-fifths of each day. Project leaders were available at each of the transport schools and received extra duty salary for this assistance. Six project teachers at each of the three schools were either released or worked extra duty on curriculum development and implementation activities.

Technical assistance was provided by consultant services from the District Office of Vocational Education. During this project Donald Bryant served as Project Director the first year, Robert Tholl the second year, and Shirley Villoni the final year.

Ronald Walter, Principal at Pacifica High School, coordinated the activities at the project school during the three-year period. At the transport schools Glenn Gwynn, Principal at Santiago and Roger Braasch, Principal at Bolsa Grande, or their designees, coordinated the activities. Jay Reed, Principal at Garden Grove coordinated the activities at the comparison school.

Poole-Young-Koehler, Inc., 1810-A College Place, Long Beach, California 90815, served as third-party evaluator during this entire project.

Staff Development

Staff development was on going during the project. The three project teachers and the specialist met during the summer of the first year to plan the implementation of the project. In August, 1976, another pre-service was held to plan the work experience and internship activities and begin work on the curriculum units. During August, 1977, the project staff participated in pre-service activities and in October a one-day inservice was held for the project and transport teachers. The teachers worked together sharing teaching ideas on the infusion units. The third-party evaluator discussed the evaluation designs and the process for evaluation. Inservices were again held during February and March. In May the staff met for a day to review the curricular units before publication.

The project was discussed at various principal's meetings and at the April 15, 1975; July 15, 1975; April 20, 1976; August 24, 1976; June 7, 1977; and July 19, 1977 Board of Education meetings.

Conclusions

1. The project fulfilled all of its commitments.

2. Student learning on the Career Maturity Inventory was demonstrated significantly for "Knowing About Jobs", and at some grades in some schools for "Choosing a Job", "Looking Ahead", "Knowing Yourself" and the "Attitude Scale".

3. Students showed greater gains after 2 or 3 years in the project.

4. On some parts of the CMI female students showed greater gains than males.

5. The students did not decline in scores on the CTBS while additional emphasis was given to the career units.

6. Teachers learned career education concepts.

7. Teachers could prepare units that would be used successfully both in their own and other schools.

8. Orientation and staff development needs for new groups of teachers using the materials are considerable, exceeding the amount originally thought required with an existing guide.

9. Student participation in work exploration experiences in the community can be arranged with good community assistance. The kinds of experiences planned must be within the age/experience limits as well as the interests of the students.

7. APPENDICES

A. Publicity Activities

B. Project CLIMB Evaluation Designs (1977-78) for:

Project School

Transport Schools

C. Teacher Career Education Inventory with references to the CMI.

D.	Table 1	Mean Post Raw Scores and %iles by Grades on the CMI Inventory for Project Schools.
	Table 2	Mean Post Raw Scores and %iles for Males, Females, and Totals on the CMI Inventory (Project School).
	Table 3	Mean Post Raw Scores and %iles by Grades on the CMI Inventory for Transport Schools.
	Table 4	Mean Post Raw Scores and %iles for Males, Females, and Totals on the CMI Inventory (Transport Schools).
	Table 5	Mean Post Raw Scores and %iles by Grade on the CMI Inventory for All Schools.
	Table 6	Mean Post Raw Scores and %iles for Males, Females, and Totals on the CMI Inventory for All Schools.
	Table 7	Summary of "t" Tests Between Project and Comparison Groups on the C.T.B.S. by Grade and Subject.
	Table 8	Summary of "t" Tests Between Transport and Comparison Groups on the C.T.B.S. by Grade and Subject.
	Table 9	Summary of Mean Scores by Grade, by Project/Comparison Males and Females on the C.T.B.S. in English, Math and Social Studies.
	Table 10	Summary of Mean Scores by Grade, by Transport/Comparison Males and Females on the C.T.B.S. in English, Math, and Social Studies.
	Table 11	Mean Pre/Post Gains and "t" Tests on the CMI Inventory for One, Two or Three-Year Participants.

E. Curriculum Materials

NEW ooo
SOPHOMORE SPECIAL

Not listed elsewhere in scheduling information

SPECIAL SECTIONS of
- WORLD HISTORY
- SOPHOMORE ENGLISH
- ALGEBRA ONE

With NEW DIMENSIONS making the courses more relevant, informative, interesting and rewarding. A limited number of students will be accepted into the special sections which will have an emphasis in Career Education through the following:

- Special Speakers
- Field Trips
- Community Involvement
- Industrial Involvement
- Career Counseling
- Work Experience/Internships
- Data Processing Job Matching
- Career Exploration

To insure your enrollment in these special sections contact your Counselor and/or Teacher Specialist, Mr. Jim Morrison, during schedule confirmation week, August 25-29, 1975.

VOLUME 1 NUMBER 23

Journal

BULK RATE
U. S. POSTAGE
PAID
GARDEN GROVE, CALIF.
PERMIT NO. 126

Cliff Quanz - Editor

Kopy-Kat Instant Printing — Publisher

12653 Main Street
Garden Grove, California

638-7950

October 1975

* * * * *

* * * * *

PROJECT CLIMB

Mr. Dick Conniff, Farmers & Merchant Bank has been appointed chairman of a new project undertaken by the Youth Committee called, CLIMB. (Career Ladder Infusion Model Building). The President of the United States stated "There is no greater national responsibility than that of helping young Americans find their way to productive and personally rewarding jobs. What we need is a systematic way to assist our young people as they decide what to do with their adult lives."

Project CLIMB, which will be piloted at Pacifica High School this year, is intended to provide a solution to this need. Curriculum units will be created to provide every student with opportunities to relate classroom learning to an on-site job application. Counselor time will be made available to each student for assistance in career exploration. Teachers will be trained to recognize the career implications of their courses and will use the infusion units to help students to recognize this relationship. Community involvement will be an integral part of the project through advisory committees, guest speakers, office and plant tours, work experience and internship activities.

The project is a low-cost model constructed within the regular school schedule using teachers already trained in the subject matter to be infused with career education units. It makes no exceptions to the school day or the use of teacher time, and it will be evolving from the regular Garden Grove curriculum. It is hoped that the project can be used as a model for other schools in the district.

What Dick and his committee needs is for Chamber Members to supply him with names of guest speakers, plant tours, actual work experience and internships. There is NO COST to you what-so-ever, but the benefits you receive are many.

Please call the Chamber Office and say you'll help.

* * * * *

GARDEN GROVE UNIFIED SCHOOL DISTRICT

Pacifica High School Parent Newsletter

Ed Dundon, Ed.D - Superintendent
October 1975
Ronald Walter - Principal

Back - to - School Night

PROJECT CLIMB

By Jim Morrison, Project Director

Pacifica is privileged this year to have a special federal funded project in career education for about 100 sophomores. Project CLIMB (Career Ladder Infusion Model Building) is an effort to design a systematic way to assist our young people as they decide what to do with their adult lives. Curriculum units will be created to provide every student with opportunities to relate classroom learning to an on site job application. Counselor time will be made available to each student for assistance in career exploration. Teachers will use the infusion units to help students to recognize the career implications of their courses. Community involvement will be an integral part of the project through advisory committees, guest speakers, office and plant tours, work experience and internship activities.

The long range goal of the program is that participating students will see a significant reason to develop competency in the basic skills of English, math and social studies.

Classes and teachers in the project are: English II - Ron Pruter, World History - Keith Lair, and Algebra I - Vince Buonocore. Directing the project is Jim Morrison.

GARDEN GROVE
Chamber of Commerce

12653 MAIN ST. — P.O. BOX 464 — PH. 638-7950 — GARDEN GROVE, CALIFORNIA 92640

"PROJECT CLIMB"

CAREER LADDER INFUSION
MODEL BUILDING WITH
CAREER CLUSTERS

*Public Services

*Business & Office

*Marketing & Distribution

*Hospitality & Recreation

*Health

Communications & Media

Construction

Manufacturing

Transportation

Agri-Business & Natural Resources

Marine Science

Environmental Control

Personal Services

Fine Arts & Humanities

Consumer & Homemaking Related

*Project Implemented

Dear Chamber Member:

The Garden Grove Chamber of Commerce, in conjunction with the Garden Grove Unified School District, is exploring a new approach to education, known as PROJECT CLIMB. The purpose of PROJECT CLIMB is to better prepare high school students for the job market by introducing material into the school curriculum which will help students find their way into productive and rewarding jobs. This year a pilot program of approximately 120 students will enter into PROJECT CLIMB at Pacifica High School.

A committee has been established by the Chamber to assist the schools in securing community resources for PROJECT CLIMB. At this point, the critical need is for written reference material which can be used in the classroom and for speakers who could address themselves to small groups of students and teachers. In addition, as the program progresses, there will be a need for plant visitations and actual work experience.

The Chamber is acting as a clearing house for businesses and individuals who want to be a part of PROJECT CLIMB. The occupational cluster presently being developed is Health Services. We will, however, be accumulating information on all occupations for use in the very near future, including Public Services, Business and Office, Marketing and Distribution, Hospitality and Recreation, Communications and Media, Construction, Manufacturing, Transportation, Agri-Business and Natural Resources, Marine Science, Environmental Control, Personal Services, Fine Arts and Humanities, and Consumer and Homemaking Related.

If you are able to assist in any way on PROJECT CLIMB, I would appreciate hearing from you either directly at 537-5200 or through the Chamber office. This is a program that fills a very real need. With your help, Garden Grove can be very proud of this important project.

Sincerely,

Richard L. Conniff, Chairman
Chamber of Commerce
PROJECT CLIMB Committee

VOLUME 1 NUMBER 24

Journal

BULK RATE
U. S. POSTAGE
PAID
GARDEN GROVE, CALIF.
PERMIT NO. 126

Mr. Don Bryant
12512 Pleasant Place
Garden Grove, CA 92641

Cliff Quanz - Editor

Kopy-Kat Instant Printing — Publisher

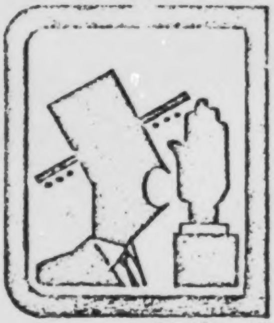
12653 Main Street
Garden Grove, California

638-7950

November 1975

* * * * * * * * *

YOUTH COMMITTEE - Chairman Richard Conniff, reports that project "CLIMB" is well underway with 1500 letters mailed out to 1500 businesses in Garden Grove. The letter explains in detail what the project is and how it works. Up to this date there are 119 students signed up ready to be placed in one of the businesses or industries. If you are able to assist in any way, please call Mr. Conniff directly at 537-5200 or call the Chamber Office. With your help, Garden Grove can and will be proud of this important project.



el CORRIENTE

Pacifica High School, 6851 Lampson Ave., Garden Grove, CA 92645
Volume 11, No. 2, November 19, 1975

CLIMBing For A Career

By Darryl Matsuda

Project CLIMB (Career Ladder Infusion Module Building) is a system for assisting sophomores in choosing a career that is best suited for them. One of the goals of the Project CLIMB is to show the students a significant reason to develop their basic skills in English, Math, and Social Studies. The teachers and classes involved in the project are Ron Pruter's English II, Keith Lair's World History, and Vince Buonocore's Algebra I classes. The director of Project CLIMB is Jim Morrison.

Although only 100 sophomores are involved in the project, the job information is available to anyone. There is information on a wide range of occupations, everything from FBI Special Agent to Park Recreational Leader. One can find information for almost any occupation one can think of, and some that you never would have thought of. The information for each job is on a card and there is a card for every job. The card tells how much education is needed for a certain job. It also tells what subjects should be studied. For example, if you want to be a doctor, do you have to study just enough math so that you could figure out how much malpractice insurance you need? The card can answer that question. The card tells about the future of the job. Do you have much of a chance for promotions? It tells about salaries, number of work hours per week, the number of job openings per year, Personal qualifications (are you the right person for this job?), related jobs if you can't get the one that you want, fringe benefits, advantages and disadvantages of the job. For instance, if you were a TV repairman, would you have to rush out to somebody's house at 11:30 in the evening and fix their TV set so they can watch Johnny Carson? If you were a cop, would you have to fix all of your friends' traffic tickets? If you were a football announcer, would you be stuck in the same booth with Howard Cosell?

Guest speakers are a big part of Project CLIMB. With guests the students can get first hand information about different occupations from the people that have these jobs.

Through the help of Project CLIMB, perhaps students can decide earlier on what they want to do for a living. In this way, Pacifica is doing its part in helping to solve one of our nation's biggest problems, unemployment.

VOCATIONAL EDUCATION NEWSLETTER

OFFICE OF INSTRUCTIONAL PLANNING AND DEVELOPMENT - GGUSD

DECEMBER - 1975

PROJECT CLIMB UNDERWAY AT PACIFICA HIGH

Implementation of a new Career Ladder Infusion Model Building project began at Pacifica High School in September. Jim Morrison coordinates the project as teacher/specialist. Assisting Jim are Keith Laire, World History;

CONTINUED - NEXT PAGE

PROJECT CLIMB - PACIFICA HIGH SCHOOL

- CONTINUED FROM PAGE 1

Ron Pruter, Sophomore English; Vince Buonocore, Mathematics.

The main idea of the project is to infuse career education into regular classroom work without detracting or adding to the ongoing curriculum.

Public Service careers were chosen to be discussed first with Health, Hospitality and Recreation, Office, and Sales Occupations following. A Chamber of Commerce Committee under the direction of Dick Conniff is assisting in this effort of identifying community resources in these cluster areas.

125 sophomore students are in the first group. It is desired that these students will continue through their senior year. Next year, an additional 100 will be added and by the end of the third year pilot, 400 students should have the opportunity of participating in this project.

Principal Ron Walter directs the project. Don Bryant and Bob Tholl and Ray Anderson from the district office; Dick Conniff, Vice-President, Farmer's and Merchant's Bank; Dan Powers and Ken Monfore, Palm Harbor Hospital; Lee Stang, Knott's Berry Farm; James Bryant, Swedlow Corp.; Bob Thompkinson and Tom Voorhis from E.D.D.; Margo Parker, May Co.; Pacifica parents, Mrs. Norton Chase, Mrs. Milton Kriger; Pacifica students, Nancy Kochenderfer and Craig Sadic, participate in monthly Advisory Committee meetings at the high school.

The Chamber of Commerce has approved and accepted locating resource people as a formal sub-committee of their Chamber of Commerce Youth Committee.

GARDEN GROVE UNIFIED SCHOOL DISTRICT
PACIFICA HIGH SCHOOL
6851 LAMPSON AVE.
GARDEN GROVE, CALIFORNIA 92645
638-6515

ED DUNDON, Ed.D.
Superintendent

RONALD N. WALTER
Principal

December 19, 1975

Dear Parent:

Your son/daughter is participating in a career education project at Pacifica. I would like to take this opportunity to briefly share with you information about the intent and scope of the project. We at Pacifica are excited about this opportunity to serve you.

Project CLIMB (Career Ladder Infusion Model Building) is an effort to design a systematic way to assist young people in deciding what to do with their adult lives. There are three areas of concentrated effort to accomplish this goal.

First, curriculum units are now being created by the teachers of selected World History, English and Algebra I classes. The units are teacher study guides which are designed to include and relate career education concepts to the material being studied. An awareness of the relationship between the subjects and skills needed in the world of work is of great importance.

A second area is in career counseling. The students have taken the OVIS (Ohio Vocational Interest Survey) and, with the guidance of the career counselor, they have interpreted the results. Several days have been spent by the students in the Career Center researching several occupations of interest to the students.

Also, the community is involved through advisory committees, guest speakers, office and plant tours and work experience-internship activities. The advisory committees are providing input and direction to the project to keep the content consistent with the world of work. Guest speakers are providing the students with information from people who actually work in the clusters or groups of related occupations being studied. Office and plant tours and work experience-internships will allow the students to experience something of the job on sites in the community.

GARY WALKER
Assistant Principal
638-6572

JACK ROBERTS
Assistant Principal
638-6573

RICHARD C. HART
Assistant Principal
638-6574

From January through the end of school, the CLIMB students will have increased involvement in the third area. The students will have the opportunity to spend several afternoons at work stations in the community observing and working with people in the areas of their interest. These activities will be in the work cluster areas: Public Service Occupations, Health Occupations, Business and Office Occupations and Distribution and Marketing Occupations. The activities will serve as a laboratory aspect to the classroom with the integration of the learning and materials involved.

The planned activities outside the school, in the classroom and in the Career Center will combine to reach the desired goals as well as provide the students with an exciting experience.

Your son/daughter is fortunate to be participating in the project. You can assist by encouraging your son/daughter to take full advantage of the activities and counseling in the coming semester. If there are any questions concerning the project, feel free to contact Jim Morrison, Project Director, at Pacifica High School (638-6515).

Sincerely,

Jim Morrison
Project CLIMB Director

gm

post office box 11789
santa ana, calif. 92711

Buena Park, Cal.
NEWS-INDEPENDENT
(Semi-Weekly)
MAR 6 1976

pacific clippings
post office box 11789
santa ana, calif. 92711

Huntington Beach, Cal.
INDEPENDENT
(Semi-Weekly)
MAR 6 1976

pacific clippings
post office box 11789
santa ana, calif. 92711

Garden Grove, Cal.
ORANGE COUNTY
EVENING NEWS
(Semi-Weekly) MAR 6 1976

On career education

Pacifica students get early peep at program

"Project Climb," inaugurated at Pacifica High School this school year, represents a joint effort between the district and the Garden Grove Chamber of Commerce to infuse career education into regular classroom work without detracting from the ongoing curriculum.

The purpose of the CLIMB, Career Ladder Infusion Model Building, project is to better prepare high school students for the job market, says Project Climb committee chairman Richard L. Conniff of the Chamber.

His committee was established to assist the schools in securing community resources which could supply students with written career reference material, speakers, plant visitations and, later, actual work experience as the program progresses.

Approximately 125 sophomores are in the first group at Pacifica to be introduced to materials which will aid them in entering productive and rewarding jobs. The pilot program seeks to have these students continue with Project Climb through their senior year and for an additional 100 students to be added next school year. By the end of the third year of the project, 400 students will be participating.

Public service careers were chosen to be discussed first in the participating classrooms, with Health, Hospitality and Recreation, Office and Sales Occupations to follow. The Chamber is acting as a clearing house for businesses and individuals who want to be part of the project. It is accumulating information on these occupations and any others that might be examined in the future.

Principal Ron Walter directs the project, which is coordinated by teacher/specialist Jim Morrison. Assisting Morrison in the implementation have been Pacifica teachers Keith Laire, Ron Pruter and Vince Buonocore.

In addition, monthly advisory committee meetings are held at the high school to discuss Project Climb. Committee members are Donald Bryant, Robert Tholl and Ray Anderson from the district office; Conniff, who is vice president of Farmer's and Merchant's Bank; Dan Powers and Ken Monfore, Palm Harbor Hospital; Lee Stang, Knott's Berry Farm; James Bryant, Swedlow Corp.

FOCUS ON EDUCATION

Focus

GARDEN GROVE UNIFIED SCHOOL DISTRICT

SERVING:
ANAHEIM
CYPRESS
FOUNTAIN VALLEY
GARDEN GROVE
SANTA ANA
STANTON
WESTMINSTER

Vol. 4, Issue 2 March, 1978

Project Climb Is Launched

"Project Climb," inaugurated at Pacifica High School this school year, represents a joint effort between the district and the Garden Grove Chamber of Commerce to infuse career education into regular classroom work without detracting from the ongoing curriculum.

The purpose of the CLIMB, Career Ladder Infusion Model Building, project is to better prepare high school students for the job market, says Project Climb committee chairman Richard L. Conniff of the Chamber.

His committee was established to assist the schools in securing community resources which could supply students with written career reference material, speakers, plant visitations and, later, actual work experience as the program progresses.

Approximately 125 sophomores are in the first group at Pacifica to be introduced to materials which will aid them in entering productive and rewarding jobs. The pilot program seeks to have these students continue with Project Climb through their senior year and for an additional 100 students to be added next school year. By the end of the third year of project, 400 students will be participating.

Public service careers were chosen to be discussed first in the participating classrooms, with Health, Hospitality and Recreation, Office and Sales Occupations to follow.

Principal Ron Walter directs the project, which is coordinated by teacher/specialist Jim Morrison. Assisting Morrison in the implementation have been Pacifica teachers Keith Laire, Ron Pruter and Vince Buonocore.

In addition, monthly advisory committee meetings are held at the high school to discuss Project Climb. Committee members are Donald Bryant, Robert Tholl and Ray Anderson from the district office; Conniff, who is vice president of Farmer's and Merchant's Bank; Dan Powers and Ken Monfore, Palm Harbor Hospital; Lee Stang, Knott's Berry Farm; James Bryant, Swedlow Corp.

Also serving are state Employment Development Dept. representatives Bob Thompkinson and Tom Voorhis; Margo Parker, May Co.; Pacifica parents Mrs. Morton Chase and Mrs. Milton Krieger; and Pacifica students Nancy Kochenderfer and Craig Sadic.

PACIFICA HIGH SCHOOL
6851 Lampson Avenue
Garden Grove, California 92645

NON-PROFIT ORGANIZATION
U.S. POSTAGE PAID
GARDEN GROVE, CALIFORNIA
PERMIT NO. 62

Parent Newsletter

colorful variety of choral music from the past to the present. Many performances will be given during the year, the first of which will be a "mini-concert" at the annual "Back-to-School Night". In addition to regular scheduled performances for schools and local community organizations, the students will have the opportunity to participate in several major choral festivals in Southern California.

The Choral Music Program is building now and gaining strength and support from the school staff, the students and interested parents. The students have shown such great enthusiasm thus far that there is a strong possibility of creating still another choir at the semester's end.

I am genuinely impressed with the quality of students at Pacifica and their desire to do well. I'm confident that our kids will do great things at Pacifica this year!

"Mini Mariners" - Mr. & Mrs. Ron Malmquist (History, Counselor) have welcomed the arrival of Matthew Sean and Mr. Dave Powers (Auto) became father of twin sons, Jeremy and Jeffery.

P.T.A. Delores [illegible]win, President

The 1976-77 P.T.A. board is curerntly reviewing their unit by-laws.

Your comments are welcome. For information call 893-3408. They will be posted for your inspection Back-to-School Night, Oct. 27th.

Thank you,

Pacifica P.T.A.

PROJECT CLIMB

by Jim Morrison

Project CLIMB is in the second year of its planned three-year pilot. The main project objective is to provide a systematic method to assist young people to decide what to do with their adult lives.

Six teachers are working in tenth and eleventh grades with about three hundred students. Classroom activities focus attention in the area of infusing career information into the curriculum through teacher-constructed curriculum units, special speakers, career education activities, and career-oriented field trips.

The eleventh graders in the second year of the project will give special attention to career-related work exploration and work experience through work stations, developed in cooperation with the Garden Grove Chamber of Commerce.

Courses and teachers in the project are: Mrs. Hess-Essentials of Composition; Mrs. Bellecchio - U.S. History; Mr. Lair - World History; Miss Doucette-Geometry; Mr. Pruter - English 2; and Mr. Buonocore-Algebra 1. Mr. Lair, Mr. Pruter, and Mr. Buonocore also serve as work experience teachers. Mr. Morrison is the project specialist.

JIM MORRISON
Project Specialist

MENTALLY GIFTED MINORS PROGRAM

Dick Avis, Coordinator

A different approach of instruction has been introduced to Pacifica's MGM program. The total program covers a two year period and incorporates the following features: (1) interclass enrollment, (2) four week mini-courses in social science and English, (3) student selection of courses and (4) periodic special events. By having a two hour bloc and eight different mini-courses per semester each student will have covered 32 specialized subjects in English and social science over the two year period. This program involves approximately 350 Pacifica students and five members of the faculty - Mr. Avis, Mr. Kelishes, Mrs. Randall, Mr. Sullivan and Mr. Wucetich.

The first special event will be on October 13 and 14 when the candidates for the 38th Congressional District will be on campus to discuss issues and the November election.

PROJECT "CLIMB" RE-FUNDED-- CHAMBER OF COMMERCE ASSISTS PROJECT

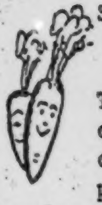
After a successful first year at Pacifica High School, Project CLIMB enters its second year with approximately 200 students enrolled. Funding levels will remain at the 1976 level. Six teachers are now giving instruction which infuses career education into their regular English, Math and History classes.

Ron Walters, principal at Pacifica, appointed Jim Morrison as teacher-specialist to supervise the project. Bob Tholl replaces Don Bryant as Vocational Ed. coordinator. Teachers are Keith Lair, History; Vince Buonocore, Math; Ron Pruter, English; Sarah Hess, English; Lois Doucette, Math; Chris Bellocchio, History.

Bill Barker, former president of the G.G. Chamber of Commerce, has a Chamber Committee comprised of businessmen seeking intern slots for students. Twenty students are currently at work sites with CLIMB objective being sixty students on-job-training by the end of the semester. Dr. Philip White, Youth Committee chairman of the Chamber, and his group support CLIMB in its community-wide cooperative effort of bringing career training into the classroom. The Chamber Committee has developed and is now implementing a program of contacting employers for intern slots.

-30-

U.S. crude oil production dropped in March of 1976 to its lowest point in more than a decade (8.1 million dollars per day). -- Consumer News, Sept. 1, 1976.



STUDENT PLACEMENT OFFICE OPEN WEDNESDAY EVENING

The student job placement service office will be open on the LETC campus from 8:15 a.m. until 4:30 p.m. throughout the week and on Wednesday evenings, until 8:30 p.m.

It is not advisable for students to arrive earlier or later than the hours noted, as we will not have enough lead time, prior to school closing hours, to effectively help the applicants.

Wednesday evenings, when the J.P.S. Office will close are November 10 and 24; December 22 and 29; and the week of April 6, 1977.

-30-

Federal Energy Administration estimates 26% of the total supply of electricity will be from nuclear energy in 1985.

GARDEN GROVE UNIFIED SCHOOL DISTRICT
BOARD OF TRUSTEES

Mr. Kenneth Slimmer, Board President
Mr. Melvin Collings Mr. Fred Garcia
Dr. Walter Ralston Dr. Frank Kellogg
Ed Dundon, Ed.D., Superintendent

OFFICE OF
INSTRUCTIONAL PLANNING & DEVELOPMENT
Ted Zimmerman, Assistant Superintendent
George Willson, Director
7-12 and Adult Instruction
Robert Tholl, Ph.D.
Coordinator of Vocational Education
Ray L. Anderson, Editor
Industry-Education Liaison Officer

VOCATIONAL EDUCATION NEWSLETTER

OFFICE OF INSTRUCTIONAL PLANNING AND DEVELOPMENT - GGUSD

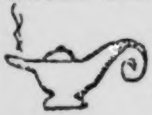
OCTOBER - 1976

IN-SERVICE PLANNED FOR BOARD APPROVED, SCHOOL ARTICULATED, OCCUPATIONAL COURSES

During the past few months, several "Career Guide Planning sheets" based on achievable competencies leading to entry-level job skills, upon course completion, have been approved by GGUSD's Board of Education. The Board has approved guide sheets in Business Education, and Trades & Industry occupations. In-put from advisory committees, teachers and others, assist in the continuing development of additional guides. Resulting from Board approval of these additional competency sequence sheets, an In-Service session will be conducted by G W Cowan, and Bob Tholl for assistant principals and all counselors.

During 1976-77, school articulated courses for occupations in the semi & professional areas, will be researched and prepared for Board acceptance. Students Career Goals are to be identified and entered on the Student Program Planning card (in order to keep the students career objective relative to the Counseling activity) record.

VOCATIONAL EDUCATION
in the
GARDEN GROVE UNIFIED SCHOOL DISTRICT
10331 Stanford Avenue
Garden Grove, CA 92640



Jim Morrison
Pacifica High

INDUSTRIAL ARTS AMENDMENT GENERATES VOC ED DOLLARS

109 Sections of Industrial Arts were approved in the GGUSD Amendment to the Vocational Education Plan submitted two years ago by the Dept. of Vocational Education, according to Dr. Bob Tholl, Coordinator. The effort expended by teachers and staff in putting this Amendement together resulted in approximately $300.00 per section available for use in their IA pre-vocational program. GGUSD is the only district in the Southern California receiving funds this year for Industrial Arts programs under the vocational Education Act.

Our congratulations to each of you who make this program successful -- good job!!

-30-

VOCATIONAL EDUCATION DEPARTMENT CONDUCTS "EMPLOYER SATISFACTION" SURVEY

197 employers (who hired GGUSD students during the Spring '76 semester) were sent questionnaires on Sept. 6, asking for comments related to how effective our vocational training and placement programs are.

Only employers developed through the JPS program were surveyed. Jobs from EDD "Job Bank" were not considered. Student's name and title

. . . .CONTINUED NEXT PAGE

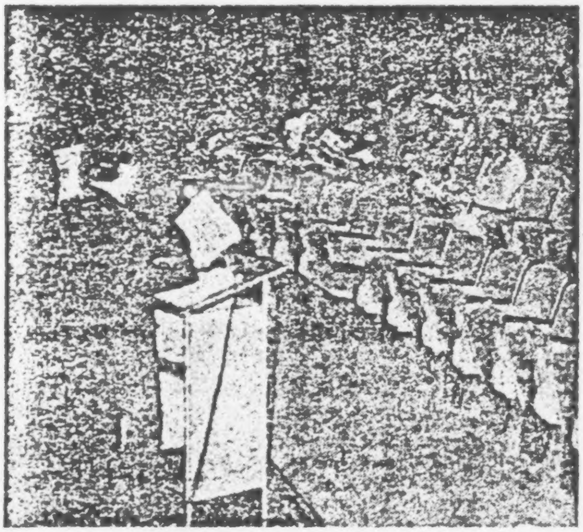
ve VOCATIONAL EDUCATION news

California Vocational Education News is published by the California State Department of Education

Vol. 13, No. 3 Wilson Riles, Superintendent of Public Instruction January, 1977

Project LOCKE Regional Task Force Works On Long-Range Plan

Project LOCKE ("Long-Range Planning for Vocational Education and Manpower Services") got out of the starting blocks in late November and early December with 11 regional task force meetings throughout California. The purpose of these meetings was to collect input from local vocational practitioners on ten issues: state and local resources, program accountability, organization and management, integration of planning, needs assessment, priority setting, components of vocational education, scope of the state long-range plan, statement of mission, and sex stereotyping.



Gerry Cresci, of the California Community Colleges, addresses a regional task force meeting of Project LOCKE in Norwalk.

The next phase of the process is for the state staff to analyze and synthesize the information gathered in these meetings and to construct a preliminary draft that can be discussed with the 11 regional task forces in January and February. The state staff will further analyze additional recommendations from the task forces (early March), subject the product of this analysis to a field review (mid-March), and write the final draft (late March) in time to have it on the agenda of the State Board of Education for approval in June. Once it is approved by the Board, the long-range plan will be submitted to the U.S. Office of Education on July 1, in compliance with the mandate of the Educational Amendments of 1976 for a five-year plan from each state desiring federal aid for vocational education. The official plan will go into effect October 1, 1977.

Real Estate Program Grants Given To Community Colleges

The Board of Governors of California Community Colleges has awarded real estate program grants to two community college consortiums. The first grant, to develop a project for multimedia real estate instructional materials, was made to a consortium of the following community colleges: Southwestern, Diablo Valley, Grossmont, Los Angeles Trade Technical, Santa Monica, Columbia, Modesto, and Los Medanos.

The second award, to a consortium consisting of Cerritos, College of San Mateo, El Camino, East Los Angeles, and Los Angeles Southwest, was made for the purposes of developing (1) a project to review and evaluate media that are used to present career information in the field of real estate; and (2) criteria to measure the most effective means of communicating career opportunities in real estate to special classes of individuals.

A third project, to develop a medium speaker-resource bank, was returned to the submitting schools (Sierra, Los Angeles, Pierce, and Siskiyou) for further planning.

Future project proposals should be submitted to the Real Estate Advisory Committee via the Office of the Chancellor, California Community Colleges, 1238 S Street, Sacramento 95814.

Methods Course Is Offered To Part-Time Vocational Teachers

"Techniques of Teaching," a 60-hour course for the part-time vocational teacher in teaching methods, materials, and evaluation, will be offered this spring at numerous locations throughout the state by the University of California's Division of Vocational Education in cooperation with the California State Department of Education. Completion of the course satisfies the professional preparation requirements for the following teaching credentials: the designated subjects (Ryan Act) vocational part-time teaching credential, the standard designated subjects vocational trade and technical part-time teaching credential, the special secondary Class D vocational teaching credential, and the California community college limited services credential.

Courses typically start in late January or early February. Information on course locations and starting dates may be obtained from the Division of Vocational Education, Vocational Teacher Education, University of California, 123 Moore Hall, Los Angeles, CA 90024, phone (213) 825-4581; or the Division of Vocational Education, University Extension, University of California, 2223 Fulton Street, Berkeley, CA 94720, phone (415) 542-7080.

Project CLIMB: Making The Traditional Curriculum More Relevant

Project CLIMB (Career Ladder Infusion Model Building) is a program developed at Pacifica High School in Garden Grove to help students determine what to do with their adult lives. The distinguishing characteristic of CLIMB is that no radical revision of the standard curriculum is required to accomplish its purpose of enabling students to learn about jobs, career planning, and themselves.

The CLIMB project began at Pacifica in 1975-76 with tenth graders in English II, Algebra I, and World History classes. Each of the five teachers had worked out a plan for "infusing" the standard classroom materials with ways of exploring career possibilities, the world of work, and the students' own ideas of who they were and who they wanted to be. The teachers worked in close conjunction with District Vocational Education Coordinator Bob Tholl, CLIMB Project Specialist Jim Morrison, and Pacifica Principal Ron Walter. The teachers shaped their career education programs to their own teaching practices and perceptions of how best to blend career concepts with subject matter. According to Mr. Tholl, the recognition that instructors had to develop their own programs was the main reason for the project's early success.

The second part of the CLIMB process was for instructors to establish a communications flow with the outside community by means of field trips, guest speakers, films, and other materials. The Garden Grove Chamber of Commerce was especially helpful in promoting this information flow.

The third part of the process was for instructors to set up career-oriented apprenticeship and work experience programs. "One of the things that makes the CLIMB program unique," according to Mr. Morrison, "is that it is the English, Algebra, or World History teacher that is involved with the work experience internship, not the usual work experience coordinator."

The CLIMB project began in 1975 with 119 students in grade ten. This year 330 students enrolled in CLIMB classes–190 in grade ten and 140 in grade eleven. Of the 140 eleventh graders, 85 were among the 119 students who were enrolled in CLIMB classes during the first year. Several of the 36 who did not re-enroll in CLIMB classes said they wanted to but were unable to do so because of scheduling conflicts. When teacher Chris Bellocchio asked one of her non-CLIMB classes whether they would be interested in having CLIMB materials as part of their program, the response was overwhelmingly positive, even though the students knew it meant more work for them.

The Pacifica students and instructors have responded enthusiastically to CLIMB because the CLIMB approach makes clearer the connections between standard academic subjects and the adult world where young people know they are soon going to have to make their way. CLIMB helps to make the academic curriculum more relevant to what students think of as the real world. Moreover, the CLIMB approach is intended to explore the total spectrum of human endeavor, including the interests of students who are college bound or interested in vocations that are commonly labeled "professional." The teachers like CLIMB because it gives them a new way of looking at their own subject matter and thus gives their own work new vitality.

Problems, of course, have occurred. Some subjects relate far more easily to the world of work than others. It is not always easy, for example, to make meaningful connections between the events of ancient history and the contemporary world of work. Another vexing problem has been community involvement. How do you place students who are under sixteen years of age in appropriate work situations? How do you handle insurance? The third major problem area has been transportation of students on field trips and work experience projects.

Despite these problems, the people at Pacifica are extremely proud of the effect that Project CLIMB has had on the ways their students look upon the relationship between school and the real world. Teachers know that students are looking for relevance in their studies, but it is always gratifying to see young people respond positively when they find it. At Pacifica the students are finding it, thanks in large part to CLIMB, and they are responding.

OSHA Warning

Lab Students May Be Using Cancer-Causing Chemicals

Some high school students are using cancer-causing chemicals in their science and vocational classes. Gabriel Gillotti, the western regional administrator for the U.S. Occupational Safety and Health Administration (OSHA advises all school administrators to inventory their laboratories and discard such materials immediately.

Mr. Gillotti recommends that schools take the following steps:

1. Discontinue the use of unnecessary carcinogenic (cancer-causing) chemicals.
2. Ensure that all carcinogenic chemicals are labeled as such.
3. Develop safety procedures for the storage, handling, use, and disposal of carcinogens, and maintain close supervision of students to ensure that they follow these procedures.

The materials identified as cancer causing are the following: vinyl chloride, ethyleneimine, betapropiolactone, methyl chloromethyl ether, benzidine, alphanaphthylamine, betanaphthylamine, 4-nitrobiphenyl, 4-aminodiphenyl, 2-acetylaminofluorene, 4-dimethyl-aminoazobenzene, N-nitrosodimethylamine, and 3, 3' dichlorobenzidine.

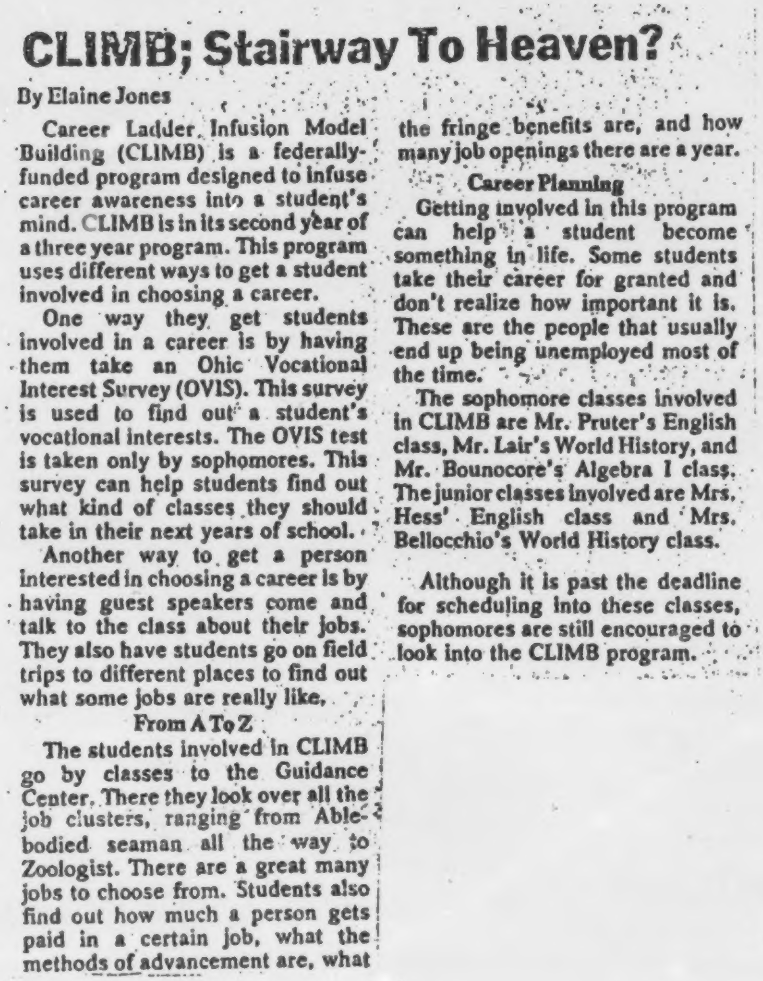
The warnings were issued by OSHA following a survey of schools in Kentucky. Seventeen high schools and 23 colleges reported having a total of 13 carcinogens. Additional information can be obtained from the U.S. Occupational Safety and Health Administration, 450 Golden Gate Avenue, San Francisco, CA 94102; telephone (415) 556-0584.

The *California Vocational Education News* is published as a public information service by the Vocational Education Support Unit, California State Department of Education. All questions regarding the *Vocational Education News* should be addressed to:

Vocational Education News, California State Department of Education, Vocational Education Support Unit, 721 Capitol Mall, Sacramento, CA 95814.

76-102 DE10552 12-76 1M

Pacifica High School student newspaper-February 4, 1977.



CLIMB; Stairway To Heaven?

By Elaine Jones

Career Ladder Infusion Model Building (CLIMB) is a federally-funded program designed to infuse career awareness into a student's mind. CLIMB is in its second year of a three year program. This program uses different ways to get a student involved in choosing a career.

One way they get students involved in a career is by having them take an Ohic Vocational Interest Survey (OVIS). This survey is used to find out a student's vocational interests. The OVIS test is taken only by sophomores. This survey can help students find out what kind of classes they should take in their next years of school.

Another way to get a person interested in choosing a career is by having guest speakers come and talk to the class about their jobs. They also have students go on field trips to different places to find out what some jobs are really like.

From A To Z

The students involved in CLIMB go by classes to the Guidance Center. There they look over all the job clusters, ranging from Able-bodied seaman all the way to Zoologist. There are a great many jobs to choose from. Students also find out how much a person gets paid in a certain job, what the methods of advancement are, what the fringe benefits are, and how many job openings there are a year.

Career Planning

Getting involved in this program can help a student become something in life. Some students take their career for granted and don't realize how important it is. These are the people that usually end up being unemployed most of the time.

The sophomore classes involved in CLIMB are Mr. Pruter's English class, Mr. Lair's World History, and Mr. Bounocore's Algebra I class. The junior classes involved are Mrs. Hess' English class and Mrs. Bellocchio's World History class.

Although it is past the deadline for scheduling into these classes, sophomores are still encouraged to look into the CLIMB program.

CONFERENCE PROGRAM

"GETTING IT TOGETHER"

First Annual Statewide

CAREER EDUCATION and ECONOMIC AWARENESS CONFERENCE

January 27-29, 1978
San Diego, CA

15. "OUTREACHING THROUGH COMMUNITY CAREER CENTERS"

A helpful insight into how to implement and fund an educational and diagnostic Careee Center in the community.

PRESENTER: Dick Hamann, Jr., Director, Manpower Training & Vocational Education Services, San Diego Community College District

16. "PRACTICAL IDEAS FOR THE JUNIOR HIGH TEACHER"

Practical ideas--both homespun and purchased--for elective career ed class. Of special interest to the junior high school teacher of career class or one interested in infusing careers into the curriculum.

PRESENTER: Katie Braselton, Teacher, Isell Junior High School

17. "PROJECT CLIMB"

How to infuse career education into basic academic instruction.

PRESENTERS: Jim Morrison, Project Specialist, Garden Grove USD; Shirley Villoni, Instructional Specialist, Garden Grove USD

18. "SCIENCE & MATH + GIRLS AND WOMEN = CAREER OPPORTUNITIES"

Discussion of model programs which encourage girls and women to study math and science in order to prepare for careers in non-traditional scientific and technical fields. Emphasis on programs which integrate career ed with curricula.

PRESENTER: Ruth Galvin, Project Coordinator, WEEA, Mills College

19. "THE ARTS: PROFESSIONALS SPEAK OUT ON CAREER ED"

Coordinator of "Artasia" and "Quest" programs gives insight into why seminars on the arts are successful, how to bring marketplace information to high school students and faculty groups, program costs and coordination requirements.

PRESENTER: Edward Truman, Assistant to the President, Musician's Local 47, American Federation of Musicians

20. "VENTURE-ENTERPRISE: USING VOLUNTEERS"

How volunteers trained in basic counseling techniques and use of community resources can start a city-wide job referral service for secondary students or similar services in school career centers.

PRESENTER: Gladys Thacher, Director, IECC Consultant, Venture-Enterprise Program

PROJECT CLIMB EVALUATION DESIGN, 1977-78

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
INSTRUCTION 1.0 Project participant mean scores on the Career Maturity Inventory Competence Test, Parts I-IV, and the attitude scale will exceed the 50th percentile.	Outcome How much have participants learned about jobs, themselves, and career planning compared with the test norm population?	11-12th grade students, Pacifica High School	C.M.I.	Prior year participants and new students selecting project courses will be included in the sample.	Post only design, with test administration in May, 1978. Means will be prepared by C.M.I. Parts. Male and female mean scores will be computed. Percentiles for 11th & 12th grade students will be read from the C.M.I. manual for each part.
	Activity What infusion units were prepared and taught by May 1, 1978?	Infusion units written and field tested.	20 additional units to be written and field tested within the six participating courses. Materials developed during 1st and 2nd year of project to be revised as required for final publication.		
	Rationale Teaching a minimum of 5 career infusion units in year courses and 3 infusion units in semester courses will result in students learning about themselves and careers. Students participating in project for greater of time should have a higher mean score.	Not applicable	Not applicable		
1.1 Participants will equal or exceed the mean gains of a comparison group on the CTBS, English, Math, and Social Studies sections.	Outcome Will project students do as well or better than comparison students in the subject areas into which career units have been infused?	11th & 12th grade students Project: Pacific High School Comparison: Garden Grove High School	CTBS, Form S, Level 4: English Math Social Studies	Prior year participants and new students selecting project courses will be included in the sample.	Pre/post design, October, 1977, and May 1978, or by semesters. Pre/post means will be prepared by subject and year in project. Male and female mean scores will be computed. Raw scores for males, females and total groups will be prepared. "t" tests of significance will be computed between project and comparison gains, and between pre- and post-tests for males and females.
	Activity Will infusion units be taught by May, 1978, in each subject?	Lists of units taught by subject area	Units taught, field tested, revised and printed in 3 areas for a minimum of 12 clusters		
	Rationale Teaching career units in each class will not reduce student learning in subject matter content.	Not applicable	Not applicable		

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
STAFF DEVELOPMENT 2.0 1st year staff will score 75% on a project-developed *Teacher Career Survey*.	Outcome Will teachers learn career education content through orientation, preparing infusion units and teaching the units?	2 project teachers	Project-developed *Teacher Career Survey* will be used. List of sessions, materials	The entire population consists of 2 new teachers who will write the career infusion units and teach the career education classes.	The design will be post only. The scores will be averaged, and the percent of the total possible score will be computed. The percentage will be compared with the 75% criterion level.
	Activity What orientation sessions have been held? What materials were available for preparing units?	Project files			
	Rationale The process of preparing to teach students will improve teacher expertise.	Not applicable	Not applicable		
CURRICULUM DEVELOPMENT 3.0 By May, 1978, 20 new career infusion units will be prepared, field tested and accepted bringing the total number of units developed by the project to 65. Materials developed 1st & 2nd year of project to be revised as required for final publication.	Outcome Can classroom teachers write, field test and revise infusion units as defined?	The units developed		Not applicable	The completed units will be available for examination by potential users. The criterion will be acceptance by project staff of each completed product.
	Activity Can time be made available and will teachers be willing to work piecemeal throughout the year?	Project files			
	Rationale Teachers are best qualified to know their own curricular content; given help with career development information they will be willing and able to write and refine infusion units.	Not applicable			

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
PARENT/COMMUNITY INVOLVEMENT 4.0 By May, 1978, Advisory Committee members will have attended 75% of the meetings and will have reviewed materials developed by the project.	Outcome Will a representative group of persons be willing to involve itself in helping with the project?	Chamber of Commerce lists of community people, Pacifica High School parent and student lists.	Membership	Community representation will cover the project clusters. Parents and students will be from Pacifica High School. Willingness to serve will be the selection criterion in these categories.	Enumeration, post. Attendance for meetings will be added to determine the percentage of attendance.
	Activity Will their willingness be expressed in attendance at meetings?	Advisory Committee minutes and rosters	Meeting rolls		
	Rationale A representative group of students, parents and community persons can contribute to project success if they can be effectively involved.	Not applicable	Not applicable		
PROJECT MANAGEMENT 5.0 The project will be implemented as written within USOE guidelines.	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
GUIDANCE 6.0 80% of the participants will be involved in community exploration activities and 100% of the participants will be involved in career decision-making activities via the infusion units.	Outcome Can students identify an interest in the world of work?	11th & 12th grade participants	List of participants	100% of population will be included.	Enumeration, post. The number and percent of students given an out-of-school experience will be determined.
	Activity Can community exploration (mini-field trip) activities be made available to participating students?	Community sites by cluster and jobs	Lists of sites by job and cluster		
	Rationale Classroom experiences can be extended if students and the community can be matched.	Not applicable	Not applicable		

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
EVALUATION 7.0 All reports will be appropriately prepared on time.	**Outcome** Will all data be available that are needed to answer the questions posed?	Project staff	Evaluation design	All data listed in the application.	Prepared evaluation design. Prepared data collecting forms. Monitoring for comparison with application. Preparation of report.
	Activity Will all data be planned for and gathered appropriately?	Project records	Data collecting forms designed by evaluator		
	Rationale Data must be requested in appropriate form and monitored to ensure that required information will be available for reports.	Not applicable	Not applicable		

GARDEN GROVE UNIFIED SCHOOL DISTRICT

TRANSPORT SCHOOLS EVALUATION DESIGN, 1977-78

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
INSTRUCTION					
1.0 Project participant mean scores on the Career Maturity Inventory Competence Test, Parts I-IV, and the attitude scale will exceed the 50th percentile by May, 1978.	Outcome How much have participants learned about jobs, themselves, and career planning compared with the test norm population?	10th-11th grade students, Bolsa Grande and Santiago High Schools.	C.M.I.	Participants selecting project courses will be included in the sample.	Post only design, with test administration in May, 1978. Means will be prepared by C.M.I. parts. Male and female mean scores will be computed. Percentiles for 10th & 11th grade students will be read from the C.M.I. manual for each part. The attained percentiles will be compared with the criterion level of the 50th percentile.
	Activity Can infusion units prepared by project schools be used in other schools?	Infusion units already written and field tested.	Materials developed during 1st and 2nd year of project to be used and revised as required.		
	Rationale Teaching a minimum of 5 career infusion units in year courses and 3 infusion units in semester courses will result in students learning about themselves and careers.				
1.1 Participants will equal or exceed the mean gains of a comparison group on the CTBS, English, Math, and Social Studies sections.	Outcome Will students do as well or better than comparison students in the subject areas into which career units have been infused?	10th & 11th grade students -- Transport: Bolsa Grande Santiago Comparison: Bolsa Grande Santiago (1976-1977 data)	CTBS, Form S, Level 4: English Math Social Studies	Students selecting project courses will be included in the sample.	Pre/post design, October, 1977, and May, 1978. Pre/post means will be prepared by subject and year-in project. Male and female mean scores will be computed. Raw scores for males, females and total groups will be prepared.
	Activity Will infusion units be taught by May, 1978, in each subject?	Lists of units taught by subject area.	Units taught, field tested, revised and printed in 3 areas for a minimum of 12 clusters.		"t" tests of significance will be computed between transport and prior year gains, and between pre- and post-tests for males and females.
	Rationale Teaching career units in each class will not reduce student learning in subject matter content.	Not Applicable	Not Applicable		

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
STAFF DEVELOPMENT					
2.0 Staff will score 75% on a project-developed Teacher Career Survey.	Outcome Will teachers learn career education content through orientation and teaching the units?	12 (6 at each school) transport teachers	Project-developed Teacher Career Survey will be used. List of sessions, materials	The entire population consists of 12 teachers who will teach the career education classes.	The design will be post only. The percent of the total possible score will be computed. The percentage will be compared with the 75% criterion level.
	Activity What orientation sessions have been held? What materials were available for teaching?	Project files			
	Rationale The process of preparing to teach students will improve teacher expertise.	Not Applicable	Not Applicable		
CURRICULUM DEVELOPMENT	FOR PROJECT SCHOOLS ONLY				
PARENT/COMMUNITY INVOLVEMENT					
4.0 By May, 1978, members will be added to the project Advisory Committee to represent the transport schools.	Outcome Will a representative group of persons be willing to involve itself in helping with the project?	Lists of people from Bolsa Grande and Santiago	Membership list	Representation will be from Bolsa Grande and Santiago. Willingness to serve will be the selection criterion in these categories.	Enumeration, post. Attendance for meetings will be added to determine the percentage of attendance.
	Activity Will their willingness be expressed in attendance at meetings?	Advisory Committee minutes and rosters	Meeting rolls		
	Rationale A representative group of students, parents and community persons can contribute to project success if they can be effectively involved.	Not Applicable	Not Applicable		
PROJECT MANAGEMENT					
5.0 The project will be implemented as written within USOE guidelines.	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Program Objectives	Related Evaluation Questions	Data Source	Instrumentation	Sampling	Design and Analysis Specifications
GUIDANCE 6.0 100% of the participants will be offered an opportunity to go on a career-oriented field trip.	Outcome Can students view the world of work in their own community?	10th & 11th grade participants	Lists of participants	100% of population will be included.	Enumeration, post. The number and percent of students given an out-of-school experience will be determined.
	Activity Can community exploration (mini-field trip) activities be made available to participating students?	Community sites by cluster and jobs	Lists of sites by job and cluster		
	Rationale Classroom experiences can be extended if students and the community experiences can be matched.	Not Applicable	Not Applicable		
EVALUATION 7.0 All reports will be appropriately prepared on time.	Outcome Will all data be available that are needed to answer the questions posed?	Project staff	Evaluation design	All data listed in the application.	Prepared evaluation design. Prepared data collecting forms. Monitoring for comparison with application. Preparation of report.
	Activity Will all data be planned for and gathered appropriately?	Project records	Data collecting forms designed by evaluator.		
	Rationale Data must be requested in appropriate form and monitored to ensure that required information will be available for reports.	Not Applicable	Not Applicable		

GARDEN GROVE UNIFIED SCHOOL DISTRICT

Project CLIMB

TEACHER CAREER EDUCATION SURVEY

Source of Question*			True	False
Att - #21	1.	All students should choose some career by the time they enter high school.		
Att - #1	2.	80% of all workers remain in the first job they take.		
Att - #5	3.	Students can do any work they want to if they just try hard enough.		
Att - #14	4.	Students need to know that work is basically dull and unpleasant.		
Att - #16	5.	Students need help in knowing how to get into the work they want to do.		
Att - #20	6.	It is probably just as easy for a student to get into one job as another.		
Att - #36	7.	Most students get into jobs by chance.		
I - #11	8.	Both talent and interest may be needed for success in a career.		
I - #4	9.	The first career choice a student makes is usually the best one.		
I - #12 (III-#47)	10.	Dependable students are more likely to be dependable workers than undependable ones.		
I - #15	11.	Hobbies are fleeting and should be disregarded in developing career choices.		
II (In general)	12.	A college education is not the best preparation for all jobs.		
II	13.	Analyzing his own interests and experiences is a good way for a student to begin thinking about vocational choice.		

---

*Career Maturity Inventory Scales

Source of Question			True	False
II	14.	The specific details of what a worker does on a job define the job itself.		
II - #31&32	15.	One of the people-helping occupations is advertising copywriter.		
II - #23	16.	A description of the work of a machinist suggests that he must be a careful and meticulous worker.		
II - #34&38	17.	The student who will become a food technician must be able to prepare food orders quickly.		
III - #51	18.	What a student does with his free time may be important in job choice.		
III - (Directions)	19.	An occupation is "best" for a person if he will be happy and successful doing it.		
II - #44	20.	A non-college bound student with science and mechanical interests might well explore the role of the x-ray technician.		
III (In general)	21.	The part-time job in which students have been successful are an indicator of career choice.		
IV	22.	Completing high school should always precede technical training.		
IV - #61	23.	To become a printer, a student is better off to complete at least two years of college first.		
IV	24.	Since almost all students follow the same sequence in preparing for a career, career education should be presented sequentially in the curriculum.		
IV - #80	25.	If a student wants to become a dancer, three steps to follow, in order, would be to go to dancing school; to try out for parts through a booking agency; and to learn different steps, specializing as she learns.		

TABLE 1

MEAN POST RAW SCORES AND PERCENTILES BY GRADES ON THE CAREER MATURITY INVENTORY FOR PROJECT SCHOOLS

Grade	N		Mean	Percentile
		Attitude Scale		
11	75		35.91	51 Percentile*
12	70		35.95	45 Percentile
		Part I (Knowing Yourself)		
11	75		13.52	40 Percentile
12	70		14.29	44 Percentile
		Part II (Knowing About Jobs)		
11	75		15.39	51 Percentile*
12	70		16.16	55 Percentile*
		Part III (Choosing a Job)		
11	75		12.11	36 Percentile
12	70		12.76	36 Percentile
		Part IV (Looking Ahead)		
11	75		12.63	52 Percentile*
12	70		11.80	42 Percentile

*Met criterion level of 50th percentile.

TABLE 2

MEAN POST RAW SCORES AND PERCENTILES FOR MALES, FEMALES, AND TOTALS ON THE CAREER MATURITY INVENTORY

PROJECT SCHOOLS

	MALE			FEMALE		
Grade	N	Mean	Percentile	N	Mean	Percentile
ATTITUDE SCALE						
11	37	35.03	44 Percentile	38	36.77	58 Percentile*
12	34	36.18	47 Percentile	36	35.73	43 Percentile
PART I (KNOWING YOURSELF)						
11	37	12.73	33 Percentile	38	14.06	45 Percentile
12	34	13.27	35 Percentile	36	15.25	56 Percentile
PART II (KNOWING ABOUT JOBS)						
11	37	14.38	42 Percentile	38	16.37	62 Percentile*
12	34	15.71	50 Percentile*	36	16.59	60 Percentile*
PART III (CHOOSING A JOB)						
11	37	11.73	34 Percentile	38	12.48	38 Percentile
12	34	12.45	34 Percentile	36	13.06	37 Percentile
PART IV (LOOKING AHEAD)						
11	37	12.30	51 Percentile*	38	12.95	53 Percentile*
12	34	10.95	40 Percentile	36	12.62	42 Percentile

*Met criterion level of 50th percentile.

TABLE 3

MEAN POST RAW SCORES AND PERCENTILES BY GRADES ON THE CAREER MATURITY INVENTORY FOR TRANSPORT SCHOOLS

Grade	N		Mean	Percentile
		Attitude Scale		
10	262		34.43	49 Percentile
11	87		35.13	45 Percentile
		Part I (Knowing Yourself)		
10	262		13.08	49 Percentile
11	87		13.12	37 Percentile
		Part II (Knowing About Jobs)		
10	262		15.48	67 Percentile*
11	87		15.80	56 Percentile*
		Part III (Choosing a Job)		
10	262		13.44	54 Percentile*
11	87		13.16	43 Percentile
		Part IV (Looking Ahead)		
10	262		12.74	62 Percentile*
11	87		11.88	49 Percentile

---

*Met criterion level of 50th percentile.

TABLE 4

MEAN POST RAW SCORES AND PERCENTILES FOR MALES, FEMALES, AND TOTALS ON THE CAREER MATURITY INVENTORY

TRANSPORT SCHOOLS

	MALE			FEMALE		
Grade	N	Mean	Percentile	N	Mean	Percentile
			ATTITUDE SCALE			
10	116	33.76	43 Percentile	146	34.96	54 Percentile*
11	54	34.34	39 Percentile	33	36.43	55 Percentile*
			PART I (KNOWING YOURSELF)			
10	116	11.72	39 Percentile	146	14.16	57 Percentile*
11	54	12.65	33 Percentile	33	13.88	43 Percentile
			PART II (KNOWING ABOUT JOBS)			
10	116	14.91	60 Percentile*	146	15.94	63 Percentile*
11	54	15.47	52 Percentile*	33	16.34	62 Percentile*
			PART III (CHOOSING A JOB)			
10	116	12.94	50 Percentile*	146	13.85	57 Percentile*
11	54	12.47	37 Percentile	33	14.31	33 Percentile
			PART IV (LOOKING AHEAD)			
10	116	12.07	47 Percentile	146	13.26	53 Percentile*
11	54	10.97	30 Percentile	33	13.37	55 Percentile*

*Met criterion level of 50th percentile.

TABLE 5

MEAN POST RAW SCORES AND PERCENTILES BY GRADES ON THE CAREER MATURITY INVENTORY FOR ALL SCHOOLS

Grade	N		Mean	Percentile
		Attitude Scale		
10	262		34.43	49 Percentile
11	162		35.49	48 Percentile
12	70		35.95	45 Percentile
		Part I (Knowing Yourself)		
10	262		13.08	50 Percentile*
11	162		13.31	39 Percentile
12	70		14.29	44 Percentile
		Part II (Knowing About Jobs)		
10	262		15.48	68 Percentile*
11	162		15.61	54 Percentile*
12	70		16.61	61 Percentile*
		Part III (Choosing a Job)		
10	262		13.44	54 Percentile*
11	162		12.68	39 Percentile
12	70		12.76	35 Percentile
		Part IV (Looking Ahead)		
10	262		12.74	62 Percentile*
11	162		12.23	51 Percentile*
12	70		11.80	43 Percentile

*Met criterion level of 50th percentile.

TABLE 6

MEAN POST RAW SCORES AND PERCENTILES FOR MALES, FEMALES, AND TOTALS ON THE CAREER MATURITY INVENTORY FOR ALL SCHOOLS

	MALE			FEMALE		
Grade	N	Mean	Percentile	N	Mean	Percentile
ATTITUDE SCALE						
10	116	33.76	43 Percentile	146	34.96	55 Percentile*
11	91	34.62	41 Percentile	71	36.61	56 Percentile*
12	34	36.18	48 Percentile	36	35.73	43 Percentile
PART I (KNOWING YOURSELF)						
10	116	11.72	39 Percentile	146	14.16	51 Percentile*
11	91	12.69	33 Percentile	71	14.10	46 Percentile
12	34	13.27	35 Percentile	36	15.25	55 Percentile*
PART II (KNOWING ABOUT JOBS)						
10	116	14.91	61 Percentile*	146	15.94	72 Percentile*
11	91	15.03	47 Percentile	71	16.36	65 Percentile*
12	34	15.71	49 Percentile	36	16.59	60 Percentile*
PART III (CHOOSING A JOB)						
10	116	12.94	50 Percentile*	146	13.85	56 Percentile*
11	91	12.17	36 Percentile	71	13.33	44 Percentile
12	34	12.45	34 Percentile	36	13.06	38 Percentile
PART IV (LOOKING AHEAD)						
10	116	12.07	58 Percentile*	146	13.26	65 Percentile*
11	91	11.51	48 Percentile	71	13.14	54 Percentile*
12	34	10.95	40 Percentile	36	12.62	45 Percentile

*Met criterion level of 50th percentile.

TABLE 7

SUMMARY OF "t" TESTS
BETWEEN PROJECT AND COMPARISON GROUPS
ON THE C.T.B.S. BY GRADE AND SUBJECT

	TOTAL GROUP		MALE		FEMALE	
Grade 11	"t"	df	"t"	df	"t"	df
English***	3.10*	190	2.03**	95	2.19**	93
Math	1.06	21	1.19	9	.10	10
Social Studies	-.95	112	-.52	54	-.73	56

	TOTAL GROUP		MALE		FEMALE	
Grade 12	"t"	df	"t"	df	"t"	df
English***	.65	116	-.27	48	.66	66
Math	---	---	---	--	-----	--
Social Studies***	.84	151	1.86	78	-1.02	71

*.01 level of significance.
**.05 level of significance
***One semester only

TABLE 8

SUMMARY OF "t" TESTS
BETWEEN TRANSPORT AND COMPARISON GROUPS
ON THE C.T.B.S. BY GRADE AND SUBJECT

	TOTAL GROUP		MALE		FEMALE	
Grade 11	"t"	df	"t"	df	"t"	df
English	2.14**	54	2.12**	32	0.59	20
Social Studies	1.39	137	0.60	73	2.45*	62

*.01 level of significance
**.05 level of significance

TABLE 9

SUMMARY OF MEAN SCORES BY GRADE, BY PROJECT/COMPARISON MALES AND FEMALES ON THE CTBS IN ENGLISH, MATH AND SOCIAL STUDIES

Project

	MALE				FEMALE			
11th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English*	74	52.33	54.17	1.84	77	57.47	61.07	3.60
Math	6	71.33	83.33	12.00	8	77.00	83.38	6.38
Social Studies	5	21.80	22.60	.80	7	25.86	27.57	1.71

Comparison

	MALE				FEMALE			
11th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English*	23	55.40	51.13	-4.27	18	62.95	60.17	-2.78
Math	5	70.80	72.20	1.40	4	72.50	78.25	5.75
Social Studies	51	28.26	30.18	1.92	51	23.16	30.98	7.82

Project

	MALE				FEMALE			
12th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English*	44	58.78	59.73	.95	42	60.86	61.38	.52
Math	52	67.77	60.23	-5.54	67	67.18	64.49	-2.69
Social Studies*	33	25.82	28.73	2.91	27	26.04	25.93	-.11

Comparison

	MALE				FEMALE			
12th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English*	6	73.84	75.84	2.00	26	63.73	62.62	-1.11
Math	--	-----	-----	----	--	-----	-----	-----
Social Studies*	47	28.62	29.45	.83	46	25.68	26.63	.95

*One Semester Only

TABLE 10

SUMMARY OF MEAN SCORES BY GRADE, BY TRANSPORT/COMPARISON MALES AND FEMALES ON THE CTBS IN ENGLISH, MATH AND SOCIAL STUDIES

Transport

	MALE				FEMALE			
10th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English	55	52.77	54.91	2.14	62	52.41	55.75	3.34
Math	46	74.85	78.68	3.83	58	65.09	71.28	6.19
Social Studies	27	22.00	25.23	3.23	48	21.86	23.59	1.73

Comparison

	MALE				FEMALE			
11th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English	23	55.40	51.13	-4.27	18	62.95	60.17	-2.78
Math	5	70.80	72.20	1.40	4	72.50	78.25	5.75
Social Studies	51	28.26	30.18	1.92	51	23.16	30.98	7.82

Transport

	MALE				FEMALE			
11th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English	11	55.09	61.00	5.91	4	61.75	63.50	1.75
Math	31	68.29	73.29	5.00	9	78.45	85.45	7.00
Social Studies	24	30.42	33.00	2.58	13	29.08	32.70	3.62

Comparison

	MALE				FEMALE			
12th Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
English	6	73.84	75.84	2.00	26	63.73	62.62	-1.11
Math	--	-----	-----	----	--	-----	-----	-----
Social Studies	47	28.62	29.45	.83	46	25.68	26.63	.95

*One Semester Only

TABLE 11

MEAN PRE/POST GAINS AND "t" TESTS ON THE CAREER MATURITY INVENTORY FOR ONE, TWO OR THREE-YEAR PARTICIPANTS

	Years in Project			"t" Test Between Years:	
CMI Parts	1 (N=102)	2 (N=30)	3 (N=13)	1 and 2 (df=130)	1 and 3 (df=113)
AS	35.17	37.50	38.23	2.36*	2.28*
I	13.58	14.04	16.00	0.59	2.38*
II	15.25	17.07	17.08	2.27*	1.58
III	11.81	13.74	14.23	2.62**	1.94*
IV	11.86	13.04	13.31	1.37	1.21

*Significant at .05 level

**Significant at .01 level

CURRICULUM MATERIALS

TABLE OF CONTENTS

Acknowledgements iv

Matrix of Cluster Materials Developed by Course v

Curriculum Materials

1. English Literature II

Fine Arts & Humanities Curriculum Unit 1-4
Health Occupations Curriculum Unit 1-6
Hospitality/Recreation Curriculum Unit 1-8
Personal Service Curriculum Unit 1-10
Public Service Curriculum Unit 1-12

2. English Composition II

Business/Office Occupation Curriculum Unit . . . 2-10
Communication & Media Curriculum Unit 2-13
Environmental Control Curriculum Unit 2-14
Marketing and Distribution Curriculum Unit . . . 2-16
Transportation Curriculum Unit 2-19

3. Algebra I

Agribusiness Curriculum Unit 3-3
Business & Office Curriculum Unit 3-11
Construction Curriculum Unit 3-29
Consumer & Homemaking Related Curriculum Unit . 3-42
Health Curriculum Unit 3-46
Hospitality & Recreation Curriculum Unit 3-62
Marketing & Distribution Curriculum Unit 3-65
Manufacturing Curriculum Unit 3-76
Public Service Curriculum Unit 3-82
Transportation Curriculum Unit 3-87

4. World History

Business/Office Curriculum Unit 4-4
Communication & Media Curriculum Unit 4-5
Environmental Control Curriculum Unit 4-11
Fine Arts & Humanities Curriculum Unit 4-13
Health Occupations Curriculum Unit 4-15
Hospitality/Recreation Curriculum Unit 4-19
Manufacturing Curriculum Unit 4-25
Marketing & Distribution Curriculum Unit 4-27
Public Service Curriculum Unit 4-33
Transportation Curriculum Unit 4-34

5. Essentials of Composition

Business and Office Curriculum Unit 5-3
Communication and Media Curriculum Unit 5-9
Consumer and Homemaking-Related Curriculum Unit. 5-12
Environmental Control Curriculum Unit 5-26
Fine Arts and Humanities Curriculum Unit 5-29
Health Occupations Curriculum Unit 5-34
Personal Services Curriculum Unit 5-38

6. Geometry

Agri-Business & Natural Resources Curriculum Unit 6-4
Business & Office Curriculum Unit 6-6
Communications & Media Curriculum Unit 6-7
Construction Curriculum Unit 6-8
Consumer & Homemaking Related Curriculum Unit . 6-20
Hospitality & Recreation Curriculum Unit . . . 6-23
Manufacturing Curriculum Unit 6-24
Marine Science Curriculum Unit 6-27
Marketing & Distribution Curriculum Unit . . . 6-29
Transportation Curriculum Unit 6-31

7. U.S. History

Agribusiness & Natural Resources Curriculum Unit 7-4
Business & Office Curriculum Unit 7-13
Communications & Media Curriculum Unit 7-18
Construction Curriculum Unit 7-23
Consumer & Homemaking Related Curriculum Unit . 7-25
Fine Arts & Humanities Curriculum Unit 7-30
Health Curriculum Unit 7-34
Manufacturing Curriculum Unit 7-39
Marketing & Distribution Curriculum Unit . . . 7-45
Public Service Curriculum Unit 7-51
Transportation Curriculum Unit 7-58

8. Civics

Communications & Media Curriculum Unit 8-3
Fine Arts & Humanities Curriculum Unit 8-4
Health Occupations Curriculum Unit 8-5
Public Services Curriculum Unit 8-7
Transportation Curriculum Unit 8-9

9. Senior Math

Business & Office Curriculum Unit 9-3
Consumer & Homemaking Curriculum Unit 9-18
Manufacturing Curriculum Unit 9-30
Marketing & Distribution Curriculum Unit . . . 9-37
Personal Service Curriculum Unit 9-50

10. English Composition - Advanced

Communications & Media Curriculum Unit 10-3
Environmental Control Curriculum Unit 10-5
Public & Social Service Curriculum Unit 10-8

11. Spelling and Vocabulary

Business & Office Curriculum Unit 11-3
Construction Curriculum Unit 11-4
Environment Curriculum Unit 11-6
Manufacturing Curriculum Unit 11-7
Marine Science Curriculum Unit 11-8
Transportation Curriculum Unit 11-9

Appendix A

Appendix B

ACKNOWLEDGMENTS

The publication contained herein was made possible by the contributions and cooperation received from a number of sources within the Garden Grove Unified School District and the community at large. Curriculum development and classroom implementation were performed by the following:

English	Tom Furey - Essentials of Composition Advanced Composition
	Sara Hess - Essentials of Composition
	Ron Pruter - English II - Composition English II - Literature Spelling and Vocabulary
Mathematics	Vince Buonocore - Algebra I Senior Math
	Lois Doucette - Geometry
Social Science	Chris Bellocchio - U. S. History
	Earl Broderick - Civics
	Keith Lair - World History

Adaptation and refinement input was provided the above persons by the following teachers in a transport aspect of the project in the final year.

English	Tom Anderson Joan Aspen Richard Mostzkus Shirley Strange
Mathematics	Walter Phaler Jerry San Filippo Dennis Titzkowski Dean Walker
Social Studies	Homer Delabar Robert Kramer Daniel O'Donnell Dorothy Sully Charles Westra

External career awareness was enhanced by the contributions from the CLIMB Community Advisory Committee, the Garden Grove Chamber of Commerce, the Garden Grove City Hall, as well as guest speakers and employers throughout the local area. Additional thanks are extended to Ron Walter, Principal of Pacifica High School, Glenn Gwynn, Principal of Santiago High School, and Roger Braasch, Principal of Bolsa Grande High School.

In addition, the enthusiasm and interest expressed by the participating students were major elements of the success experience during the three years of Project CLIMB.

MATRIX OF CLUSTER MATERIALS

DEVELOPED BY COURSE

	Agribusiness & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
English Literature II							X	X	X				X	X	
English Composition II		X	X			X				X					X
Algebra I	X	X		X	X			X	X	X	X			X	X
World History		X	X			X	X	X	X	X	X			X	X
Essentials of Composition		X	X		X	X	X	X					X		
Geometry	X	X	X	X	X				X	X	X	X			X
U.S. History	X	X	X	X	X		X	X		X	X			X	X
Civics			X				X	X						X	X
Spelling and Vocabulary		X		X		X					X	X			X
English Composition - Advanced			X			X								X	
Senior Math	X				X					X	X		X		

ENGLISH LITERATURE II

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course English Literature II

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Reading Skills							X	X	X				X	X	
Short Story							X	X	X				X	X	
Essay and Article							X	X	X				X	X	
Poetry							X	X	X				X	X	
Drama							X	X	X					X	
Novel							X		X						
Spelling							X	X	X				X	X	
Vocabulary							X	X	X				X	X	

COURSE RELATIONSHIP TO THE GOALS
FOR CAREER EDUCATION IN CALIFORNIA

Course English Literature II

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.							X	X	X				X	X	
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.							X	X	X				X	X	
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.							X	X	X				X	X	
4. Recognize that educational experiences are a part of total career development and preparation.							X	X	X				X	X	
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.															
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.								X						X	
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.							X	X	X				X	X	
8. Gain career orientation to increase exposure to the options available in the world of work.							X	X	X				X	X	
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.							X	X	X				X	X	
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.							X								

ENGLISH LITERATURE

DETAILED OVERVIEW

CURRICULUM CONCEPT	SUGGESTED SOURCES	CAREER OBJECTIVE
READING SKILLS SHORT STORY . Analysis of character, setting and plot . Analysis of story ESSAY AND ARTICLE POETRY . Review of grade 9 elements . Elements of poetry . conciseness . imagery . Types of poetry . ballads . epic poetry DRAMA . Characteristics of the drama . Stage direction, theme and character development NOVEL . Characteristics of the novel . Special techniques and styles Note: Constant emphasis on the development of vocabulary and spelling.	Sources listed will provide the following information toward self- and career awareness: . Working conditions, . Advantages/disadvantages of the job, . Personal qualifications, and . Duties.	Career objectives will be applied within the following occupational clusters: . Public Service Cluster . Health Occupation Cluster . Hospitality/Recreation Cluster . Personal Service Cluster . Fine Arts & Humanities Cluster

THE ENGLISH LITERATURE APPROACH

The purpose of this approach is to infuse occupational self-awareness of the Fine Arts & Humanities, Health Occupations, Hospitality/Recreation, Personal Service, and Public Service Occupational Clusters into the normal Sophomore English Literature curriculum. This attempt is to be made while deducting as little as possible from the standard course content. The approach will be thematic; that is to say that the themes and characters of selected literary works will be related to actual occupations. For example, the theme of the poem "Lee" is the military while its character is obviously an ideal model of what is considered an "ideal" military person. While evaluating the work as a poetic piece, the student and instructor will infuse information about the military, specifically concentrating on how the student would function in the military (self-awareness) and what the military expects of individuals (occupational awareness). Attention will be given to working conditions, advantages/disadvantages of the job, personal qualifications, and duties.

ENGLISH LITERATURE

FINE ARTS & HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS SHORT STORY ESSAY AND ARTICLE	Student will be able to: 1. Identify the tone in The Monument 2. Explain what the monument represents besides a piece of stone 3. Collect five political cartoons of Conrad's, giving background and meaning 4. Create a cartoon on some political issue 5. Evaluate the film, Why Man Creates: a. Why and how do ideas begin? b. Creates for whom? c. What forms does creativity take? d. Do all humans create?	THE VISUAL ARTS Artists Illustrator Clothes Designer Cartoonist Interior Designer/ Decorator Designers - all types Painting/Sculpturing Potter Photographer Draftsman	Student will be able to: . Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and; . Gain insight on temperament, interest, and abilities common to members of the cluster; . Increase self-awareness by self-inventory of interests through use of self-inventory test; (Supp. A-10)	The Monument, Brodsky Political Cartoons, L.A. Times, Conrad Why Man Creates, film
POETRY DRAMA NOVEL	1. Perform orally a portion of a role in the play 2. Become familiar with the theory of playhouse structure 3. Become familiar with the relationship of audience and performers 4. Define tragedy and tragic flaw 5. Discuss and evaluate the characters of Brutus, Caesar, Cassius, and Antony 6. Define anachronism and soliloquy 7. Discuss assassination and its effects on world events since Caesar 8. Brutus or Antony - which is the protagonist? 9. Plot the play on the Elizabethan Tragic Pyramid (Supplement #B)	PERFORMING ARTS Choreographer Dancer Theatre Director Manager Playwright Lighting/Electrician Prop Man Coach Actor/Actress Reader	. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	Julius Caesar, Shakespeare, and accompanying articles: a. "within this wooden O" (Development of Playhouse Design) b. "I will draw a bill of properites..." (Elizabethan Actor & His Versatility) c. "This dreadful night that thunders" (Special Stage Effects) d. "...with silken coats and caps..." (Costuming) e. William Shakespeare, Playwright. Include use of film and recorded versions.

ENGLISH LITERATURE

FINE ARTS & HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	
SHORT STORY ESSAY AND ARTICLE	1. Compare Lena Horne's course of growth in music with that of any other performer 2. Discuss Lena Horne's advice to young people beginning careers, especially in fine arts 3. Determine whether Taylor's biography of Wagner is subjective or objective 4. Compare the personal turmoil of Wagner and other creative people (Van Gogh, Hemingway, Poe, etc.)	MUSIC Composer Conductor Choral Director Instrumentalist Vocalist Piano Tuner	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and; . Gain insight on temperment, interest, and abilities common to members of the cluster; . Increase self-awareness by self-inventory of interests through use of self-inventory test; (Supp. A-10)	Believing in Oneself, Horne The Monster, Taylor
POETRY	1. Define autobiography 2. Explain the letter "A" as a symbol 3. Define symbol 4. Discuss the power of the written word 5. Evaluate the impact of a single stroke of the pen in "The Hand That Signed the Paper"	WRITING Author Poet Playwright Copy Writer Lyricist Humorist	. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	The Letter "A", Brown "The Hand That Signed the Paper", Thomas
DRAMA NOVEL	1. Evaluate the local community as Orwell does, by collecting acecdotes that are typical of the community 2. Compare Wong's method of cultural evaluation with that of Orwell 3. Explain how Golding evaluates man's past and present	ARCHITECTURE RELIGION & THEOLOGY Clergymen LANGUAGE & LINGUISTICS Interpreter Translator HISTORY & MUSEUMS Historian Archivist Curator Art Appraiser		Puritans from the Orient, Wong Marrakech, Orwell Digging for Pictures, Golding

ENGLISH LITERATURE

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	
	1. Analyze all contributing factors to developing the character of Boaz Negro; such as labels, direct comments, dialogue and action.	THERAPY FOR THE HANDICAPPED Physical Therapist Personal Attendent	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and	Footfalls, Steele The Letter "A", Brown
SHORT STORY	2. Defend or criticize the author deceiving the reader in "Footfalls."		. Gain insight on temperament, interest, and abilities common to members of the cluster.	
ESSAY AND ARTICLE	3. Explain the symbolism of the letter "A" in Brown's work.		. Increase self-awareness by self-inventory of interests through use of self-inventory test. Supp. A-10.	
	4. Identify both the biographical and autobiographical elements of this narrative.		. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	
POETRY	1. Identify and define the "whispering" and "Rocking Horse" symbols.	PSYCHOLOGY/MENTAL HEALTH Psychiatrist Psychologist		Rocking Horse Winner, Lawrence
	2. Identify and define elements of fantasy.			
DRAMA	3. Discuss possible themes, i.e., "money is the root of all evil", "can money replace love?", etc.			
	1. Orally perform a portion of a role in the play.	PUBLIC HEALTH Food/Drug Inspector Sociologist Consumer Safety Officer Ecologist		An Enemy of the People, Ibsen
NOVEL	2. Identify and define protagonist and antagonist.			Marrakech, Orwell
(Refer to "Detailed Overview")	3. Identify conflict and climax within the play and their value.			
	4. Identify the works and style of Orwell.			
	5. Distinguish between fact and opinion as offered in Orwell's "Marrakech."			

ENGLISH LITERATURE

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	
	1. Identify and define the tone in "Donkeys" - ironical, sarcastic.	VETERINARY Animal Husbandry Veterinarian Zoologist	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and	Donkeys, Field The Hippo, Roethke Seagulls, Updike
SHORT STORY	2. Compare the rhythm of "The Hippo" with the subject of the poem.		. Gain insight on temperament, interest, and abilities common to members of the cluster.	
	3. Identify the visual images created by Updike in "Seagulls."			
ESSAY AND ARTICLE	4. Compare and contrast each of the three animal poems.		. Increase self-awareness by self-inventory of interests through use of self-inventory test. Supp. A-10.	
POETRY	1. Identify the elements used by the author that fully develops the main character without directly offering his own opinion.	NURSING Licensed Practical Nurse Registered Nurse	. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	Zone of Quiet, Lardner
	2. Identify elements of humor.			
	1. Compare the nature of "Poemectomy" with an actual medical operation or illness.	MEDICINE - GENERAL Physicians Specialized Areas		Poemectomy, Dickson Dr. Heidegger's Experiment, Hawthorne
DRAMA	2. Identify romantic and realistic elements of the story.			Other sources which may be applied within this unit.
	3. Identify and define plot manipulations.			. Occupational Awareness mini-brief subject-oriented Occupational Packet. . Dictionary of Occupational Titles (D.O.T.)
NOVEL				. V.I.E.W. . Visit school "Career Center" to research cluster related vocations. . Field Trips/Guest Speakers: . County, hospitals, nursing homes, and veterinary facilities. . Review and complete Supp. A-2, A-3 and A-5.
(Refer to "Detailed Overview")				

ENGLISH LITERATURE

HOSPITALITY/RECREATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	
	1. Determine the research required by Hailey to construct both "Airport" and "Hotel."	TRAVEL Pilot Stewardess/Steward Travel Agent Ticket Clerk Tour Director Porter/Bellman Air Traffic Controller	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and	Airport, Hailey Vacation. Stafford R.M.S. Titanic, Baldwin
SHORT STORY	2. Trace elements employed by Hailey to build "suspense".		. Gain insight on temperament, interest, and abilities common to members of the cluster.	
	3. Explain visual aspects of Stafford's poem and their relevance to meaning.			
ESSAY AND ARTICLE	4. Discuss the mood created by the poem.		. Increase self-awareness by self-inventory of interests through use of self-inventory test. (Supp. A-10)	
	5. Discuss the author's purpose in writing this piece: journalistic, warning, man vs. nature, etc. - Baldwin.			
POETRY	6. Identify ironic elements of the story, i.e., title, hymn.		. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	
DRAMA	1. Compare the militancy of Lena Horne with that expressed by Jesse Owens in "Open Letter to a Young Negro."	INDOOR Circus/Carnival Entertainment Pit Boss/Dealer/Croupier Cashier		Believing in Oneself, Horne Outcasts of Poker Flats, Harte Open Letter to a Young Negro, Owens
	2. Identify prejudice encountered by Horne and by black people today.			
NOVEL	3. Compose a short paper detailing a form of prejudice that each student may have encountered in their own life.			
(Refer to "Detailed Overview")	4. Explain symbolism of the epitaph at conclusion of "Outcasts of Poker Flats."			
	5. Discuss good and evil elements of each character.			

ENGLISH LITERATURE

HOSPITALITY/RECREATION CURRICULUM UNIT

CURRICULUM CONCEPT		CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS		Student will be able to:		Student will be able to:	
	1.	Trace Kerouac's talent of appealing to the reader's senses.	OUTDOORS Athletics Manager/Player/Trainer Park Director/Recreation Leader National Parks Ranger/Forester/Game Management Animal Trainer Zookeeper	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and . Gain insight on temperament, interest, and abilities common to members of the cluster. . Increase self-awareness by self-inventory of interests through use of self-inventory test. Supp. A-10. . Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	Alone On a Mountain Top, Kerouac The Elk, McNanar Dreams of the Animals, Atwood To Build a Fire, London
SHORT STORY	2.	Write a composition describing a person's encounter with nature and its lasting impression.			
ESSAY AND ARTICLE	3.	Identify and justify the following theme: "The Elk" points out man's inhumanity to living things, including himself.			
	4.	Compare the theme of "The Elk" with that of "Dreams of Animals."			
POETRY	5.	Identify the tone of this poem and key word choices that created this tone.			
	6.	Discuss man's interaction with nature.			
DRAMA	7.	Discuss man's role in nature according to Jack London.			
	1.	Compare and contrast elements of suspense found in both "Hotel" and "Airport".	HOTEL/RESTAURANT Waiter/Waitress Maitre'd Chef/Cook Manager Hotel Clerk		Hotel, Hailey The Boarder, Simpson Other sources which may be applied within this unit. . Occupational Awareness mini-brief subject-oriented Occupational Packet. . Dictionary of Occupational Titles (D.O.T.) . V.I.E.W. . Visit school "Career Center" to research cluster related vocations. . Field Trips/Guest Speakers: . Travel agencies, airports, local businesses, city facilities, and local athletic clubs. . Review and complete Supp. A-2, A-3 and A-5.
NOVEL	2.	Choose two characters and trace their development and actions.			
(Refer to "Detailed Overview")	3.	Relate, through composition, a personal experience where the student has had to spend a night in a place other than home.			

ENGLISH LITERATURE

PERSONAL SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Students will be able to:		Students will be able to:	
SHORT STORY	1. Define the role and personal relationship between Don Damian and his servant. 2. State which device the author uses for Don Damian to find the attitudes of those around them.	DOMESTIC SERVICE Housekeeper Day Worker Maid/Nursemaid Butler Valet Chauffeur	. Through the reading of basic literary styles and student will understand the need for personnel within the cluster, and . Gain insight on temperament, interest, and abilities common to members of the cluster.	The Beautiful Soul of Don Damian, Bosch
ESSAY AND ARTICLE	1. Understand the indentation of parts of "Vacation" - what effect is created? Why? 2. Develop the backgound of the the boarder based on information given in the poem. 3. Compare and contrast the feelings and moods provoked by "The Boarder" and "Vacation".	LODGING & RELATED SERVICE OCCUPATIONS Manager-Boarding House & Lodging Facility Doorman Janitor Clerk	. Increase self awareness by self-inventory of interests through use of self-inventory test. Supp. A-10. . Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	The Boarder, Simpson Vacation, Stafford
POETRY DRAMA	1. Identify use of personification and apostrophe in the poem "Go Down Death". 2. Speculate as to the mood of the poet in "Go Down Death". 3. Name each of the Personal Service Occupations needed to prevent the man from having a "flaw" in the gray flannel. 4. Define satire.	BARBERING, COSMETOLOGY & RELATED SERVICES Barber Manicurist Hair Stylist Cosmetologist Masseurs Attendant-all types Embalmer Cremator Tattoo Artist		Go Down Death, Johnson A Flaw in the Gray Flannel, Royko
NOVEL (Refer to "Detailed Overview")	1. Identify elements of character development in "Footfalls" especially that of Boaz Negro: a. labels b. direct comment c. dialogue d. action 2. Defend or criticize the author deceiving the reader in "Footfalls".	DRYCLEANING, LAUNDRY & APPAREL SERVICES Laundering Occupations Dry Cleaning Occupations Pressing Occupations Apparel Services Tailor Shoe Repair Dressmaker		Footfalls, Steele

ENGLISH LITERATURE

PERSONAL SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	
SHORT STORY	1. Identify various Personal Service Occupations found in the airport. 2. Explain process used by the author in character development.	MISCELLANEOUS PERSONAL SERVICE Chaperon/Escort Stewardess Guide	. Through the reading of basic literary styles and student will understand the need for personnel within the cluster, and	Airport, Hailey
ESSAY AND ARTICLE	1. Compare and contrast elements found in White's story with elements found in a tragic play. 2. Explain the purpose of White's essay. 3. Write an essay constructing a "Human Show." 4. Compare and contrast the humorous techniques of Royko and White.	DOMESTIC ANIMAL CARE Trainer/Groomer Kennelman Pet Shop Attendant	. Gain insight on temperament, interest, and abilities common to members of the cluster. . Increase self-awareness by self-inventory of interests through use of self-inventory test. Supp. A-10. . Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	Death of a Pig, White Mutt of the Year, Royko
POETRY DRAMA NOVEL (Refer to "Detailed Overview")	1. Identify qualities and abilities needed by Carter in "Language of Men" in order to serve a number of men. 2. Explain Mailer's definition of the "language" of men. 3. Discuss the role of women in "Two Eggs for the Men".	FOOD & BEVERAGE PREPARATION & SERVICE Wine Steward Chef Baker Cook Butcher Kitchen Occupations Waiter/Waitress Bartender Caterer		Language of Men, Mailer Two Eggs for the Men, Duncan Other sources which may be applied within this unit: . Occupational Awareness mini-brief subject-oriented Occupational Packet . Dictionary of Occupational Titles (D.O.T.) . V.I.E.W. . Visit school "Career Center" to research cluster related vocations . Field trips and guest speakers. (Supplements A-2, A-3, A-5)

ENGLISH LITERATURE

PUBLIC SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	
SHORT STORY	1. Identify and discuss the styles of Mailer, Dahl, Benet, and Pirandello. 2. Identify the elements of different literary devices such as irony, symbol, humor.	THE PROTECTORS Fire Police Military	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and . Gain insight on temperament, interests, and abilities common to members of the cluster.	Lamb to the Slaughter, Dahl Language of Men, Mailer Lee, Benet Footfalls, Steele War, Pirandello The Blood of Martyrs, Benet
ESSAY AND ARTICLE	1. Trace character development and its relationship to the effectiveness of the short story. 2. Paraphrase a poem in order to gain futher understanding of its meaning and effectiveness.	TEACHERS	. Increase self-awareness by self-inventory of interests through use of self-inventory test. Supp. A-10.	Brainy Teacher, Stone The Terrible Miss Dove, Patton Goodbye Mr. Chips, Hilton
POETRY	1. Identify argumentative/persuasive writing when presented. 2. Develop an ability, through practice, to write an editorial on a controversial subject. 3. Participate in group discussion on a controversial issue.	GOVERNMENT/POLITICS	. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.	All the President's Men, Woodward/Bernstein The Hand that Signed the Paper, Thomas The Monument, Brodsky L.A. Times, Editorial Section
DRAMA NOVEL	1. Understand the nature, origin and uses of the one-act play. 2. Identify and define the "farcical" play. 3. Orally perform a role in a play. 4. Identify, define, and follow stage directions.	COURTS/JUSTICE		The License, Pirandello Twelve Angry Men, Rose
(Refer to "Detailed Overview")	1. Write a descriptive "open" letter, describing in detail an environmental problem and how it should be solved. 2. Compare the strength of the main character in "An Enemy of the People" with that of the main character in "Footfalls."	UTILITIES/ENVIRONMENT		Two letters, Both Open, Whit Long Distance, Gregory An Enemy of the People, Ibsen

ENGLISH LITERATURE

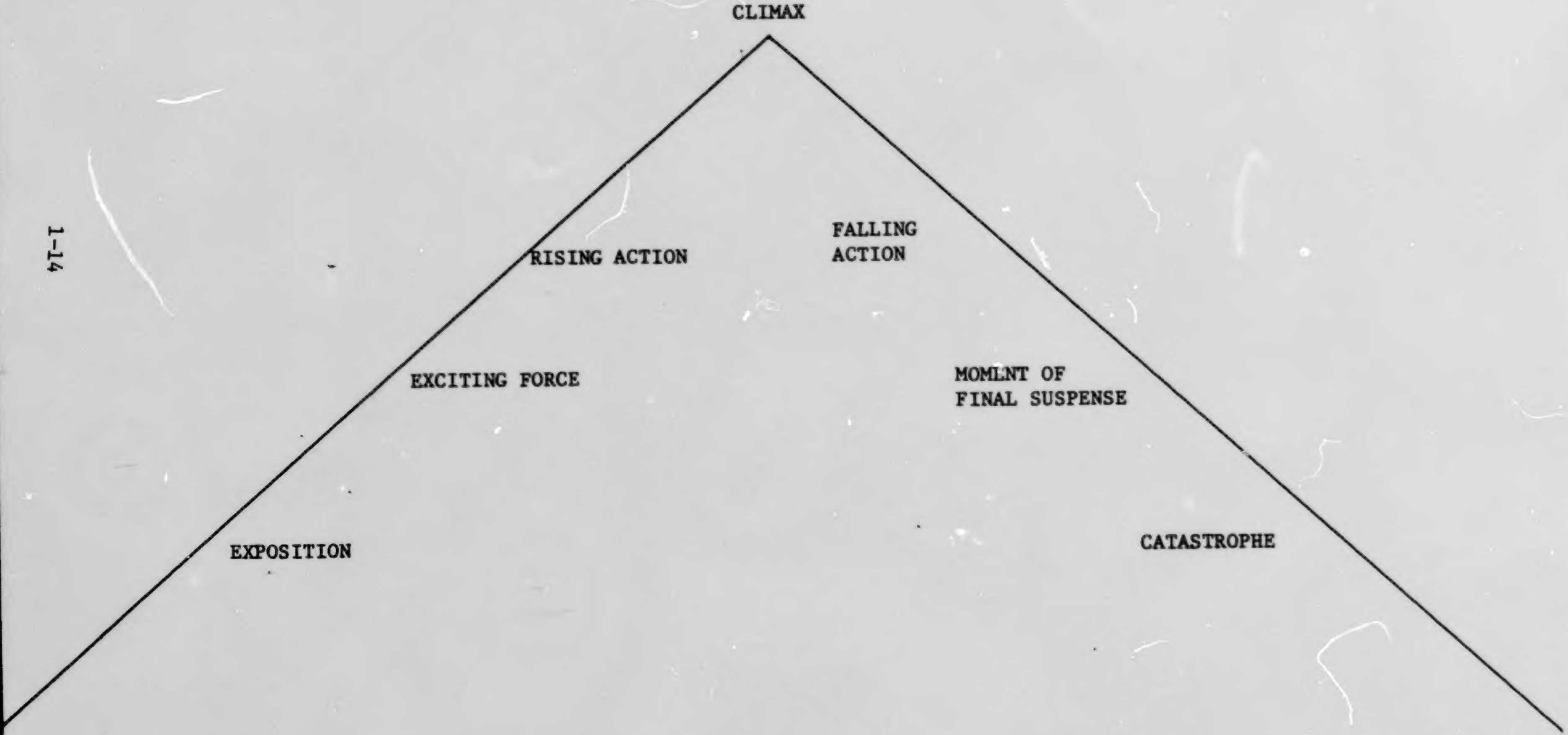
PUBLIC SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
READING SKILLS	Student will be able to:		Student will be able to:	

SHORT STORY
ESSAY AND ARTICLE
POETRY
DRAMA
NOVEL
(Refer to "Detailed Overview")
	1. Recognize and identify the works of minority authors and poets, i.e., Hughes, Hansberry, and Baldwin.
	2. Compare and contrast the use of symbolism by Baldwin in "Roy's Wound" with that of Brodsky in "The Monument."
		SOCIAL WORK	. Through the reading of basic literary styles the student will understand the need for personnel within the cluster, and
			. Gain insight on temperament, interest, and abilities common to members of the cluster.
			. Increase self-awareness by self-inventory of interests through use of self-inventory test. (Supp. A-10)
			. Compare and contrast the results of self-inventory with the characteristics found in literary works containing characters related to the cluster.
				Portrait, Rogers
				Harlem, Hughes
				Roy's Wound, Baldwin
				Raisin in the Sun, Hansberry
				Other sources which may be applied within this unit.
				. Occupational Awareness mini-brief subject-oriented Occupational Packet.
				. Dictionary of Occupational Titles (D.O.T.)
				. V.I.E.W.
				. Visit school "Career Center" to research cluster related vocations.
				. Field trips/guest speakers:
				  . City, county, state, and federal agencies.
				  . Review and complete Supp. A-2, A-3 and A-5.

Supplement 1

ELIZABETHAN
TRAGIC
PYRAMID


CLIMAX
RISING ACTION
FALLING ACTION
EXCITING FORCE
MOMENT OF FINAL SUSPENSE
EXPOSITION
CATASTROPHE

ENGLISH COMPOSITION II

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course English Composition II

	Agri-business & Natural Resources	Business & Office	Communication & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Parts of Speech		X													
The Sentence		X	X		X					X					X
Spelling		X	X		X					X					X
Mechanics of Grammar		X	X		X					X					X
Autobiography		X													
Term Paper		X													
Modifiers			X												X
Punctuation		X	X		X					X					X
Public Speaking			X		X										
Specific Writing Assignments		X	X		X					X					X
Definition					X										
Dictionary					X										
Letter Writing					X										
Library		X			X										
Levels of Usage										X					
Paragraph										X					
Creative Writing										X					X
Vocabulary		X	X		X					X					X

COURSE RELATIONSHIP TO THE GOALS

FOR CAREER EDUCATION IN CALIFORNIA

Course English Composition II

	Agri-business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.		X	X			X				X					X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.		X	X			X				X					X
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.		X	X			X				X					X
4. Recognize that educational experiences are a part of total career development and preparation.		X	X			X				X					X
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.															
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.		X				X				X					
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.		X	X			X				X					X
8. Gain career orientation to increase exposure to the options available in the world of work.		X	X			X				X					X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.		X	X			X				X					X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.		X	X							X					

ENGLISH COMPOSITION

DETAILED OVERVIEW

The English Composition units herein attempt to integrate regular curriculum concepts, as shown in the detailed overview following, with career activities and concepts. Activities are designed to relate directly to becoming familiar with the following clusters:

1. Business/Office Occupations
2. Communications & Media
3. Environmental Control
4. Marketing/Distribution
5. Transportation

ENGLISH COMPOSITION

DETAILED OVERVIEW

CURRICULUM CONCEPT		CURRICULUM OBJECTIVE
		Student will be able to:
1. PARTS OF SPEECH	1.1	Name and identify the eight parts of speech.
	1.2	Understand the function of each part of speech.
	1.3	Give examples of each of the eight parts of speech.
2. THE SENTENCE	2.1	Define the sentence and its essential elements.
	2.2	Understand the terms subject, predicate, and complement.
	2.3	Identify and construct sentences classified by purpose: declarative, imperative, interrogative, and exclamatory.
	2.4	Define and give examples of the following: . verb phrase, . predicate nominative, . predicate adjective, . direct object, . indirect object, . sentence base, and . fragments.
3. SPELLING UNIT	3.1	Understand basic spelling rules of the English language, specifically: . ie and ei, . -cede, -ceed, -sede, . adding prefixes, . adding suffixes, . plural forms, . use of dictionary, . proper pronunciation, and . proofreading.
	3.2	Learn spelling and meaning of frequently confused words in the English language, i.e., capitol/capital, consul/council/counsel, desert/desert/dessert, etc.
4. MECHANICS OF GRAMMAR	4.1	Gain knowledge of the standard uses of capitalization.
	4.2	Understand the rules of punctuation in English: . end marks, . commas, . semicolons and colons, . underlining, and . use of quotation marks.

CURRICULUM CONCEPT		CURRICULUM OBJECTIVE
		Student will be able to:
5. EXTENDED AUTOBIOGRAPHY	5.1	Define autobiography.
	5.2	Construct a complete autobiography using proper mechanics and elements of grammar.
	5.3	Develop self-awareness through personal reflection.
6. TERM PAPER	6.1	Understand and use the following research procedures: . selecting and limiting a topic, . write a preliminary (topical) outline, . gather sources and construct a working bibliography, . take notes and read source material, . write a final (sentence) outline . write a rough draft, . construct a title page, . construct a final bibliography, and . write a final copy including footnotes.
	6.2	Gain knowledge of uses of: . Reader's Guide, . card catalogue, . reference material, and . footnoting.
7. USING MODIFIERS	7.1	Distinguish use of bad-badly, good-well, slow-slowly.
	7.2	Change forms of modifiers as they are used in comparisons.
	7.3	Understand use of comparative and superlative forms.
8. PUNCTUATION	8.1	Understand the uses of underlining and its application when writing titles of: a. books b. periodicals c. works of art d. planes, trains, etc. e. and for words, letters and figures referred to as such.
	8.2	Understand the use of quotation marks: a. direct quotations b. placement of marks in relation to other punctuation c. quotation marks relating to dialogue d. titles of short stories, poems, songs, chapters, articles, and other parts of books and periodicals e. enclosing slang words, technical terms, and other expressions that are unusual in standard English.

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE
	Student will be able to:
9. PUBLIC SPEAKING	9.1 Prepare a talk: a. Choose appropriate topic b. Limit the subject c. Determine purpose of talk d. Gather material e. Outline talk f. Good introduction and conclusion
	9.2 Giving the talk: a. Conquering stage fright b. Developing a platform manner.
10. SPECIFIC WRITING ASSIGNMENTS	10.1 The Critical Review: a. Generally identify work b. Author/artist's background and qualifications c. Summarize content d. Discuss author's purpose e. Special features f. Evaluate effectiveness g. Individual response
	10.2 Essay of Opinion: a. Choose debatable opinion b. List arguments c. Effective beginning d. Support point of view with evidence e. Conclude with main argument and future course of action.
	10.3 Explain a Process: a. Choose subject keeping reader in mind b. Clarity, accuracy, and completeness c. Make reader aware of any possible materials d. Chronological steps in process e. Conclude with expected results of steps taken.
11. THE LIMITED AND EXTENDED DEFINITION	11.1 Understand and Construct a Limited Definition: a. term b. genus c. differentiate
	11.2 Understand and Construct an Extended Definition: a. Cite authority b. Use of dictionary definition c. Origin of term d. History of term e. Use of comparison and contrast f. Use of anecdote g. Tell what it is not h. Cite many examples

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE
	Student will be able to:
12. THE DICTIONARY	12.1 Understand kinds of dictionaries: a. Unabridged b. College
	12.2 Become familiar with kinds of information in dictionaries: a. Spelling b. Capital letters c. Syllable division d. Pronunciation/Accent e. Part of speech f. Meaning g. Derivation h. Synonyms/Antonyms i. Illustrations
13. LETTER WRITING	13.1 Understand the nature and construction of a business letter: a. Appearance and stationery b. Form c. Heading d. Inside address e. Salutation f. Body g. Closing h. Signature i. Envelope
	13.2 Understand purpose of a "request" business letter.
14. THE LIBRARY	14.1 Learn arrangement of books.
	14.2 Learn use of: a. Card catalogue b. Parts of a book c. Reader's Guide d. Vertical File e. Reference books
15. LEVELS OF USAGE	15.1 Distinguish and give examples of standard and substandard English.
	15.2 Distinguish and give examples of formal and informal English.

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE
	Student will be able to:
16. THE EFFECTIVE SENTENCE	16.1 Define "style" as applied to writing effectively.
	16.2 Reorganize sentences to present varied sentence beginnings.
	16.3 Identify and give examples of sentences classified by structure; . Simple . Compound . Complex . Compound-complex
	16.4 Learn to vary the length of sentences to avoid "chopped up" effect.
17. THE PARAGRAPH	17.1 Understand the meaning and use of the topic sentence and the concluding or clincher sentence.
	17.2 Identify and give examples of terms applying to paragraph construction: . Unity . Coherence . Order of ideas . Linking expressions . Paragraph revision
	17.3 Construct a paragraph utilizing each element listed above.
18. EXPOSITION	18.1 Identify the essential steps in writing a composition and perform each of the following: . Choosing and limiting a topic . Planning . Outlining . Writing the composition
	18.2 Understand and identify the structural elements of a composition: . Introduction . Body . Conclusion . Paragraph transition . Revision
	18.3 Perform the following in composition form: . Explaining a process . Writing the essay answer . Character description . Essay of opinion . Critical review . The definition (Throughout this entire unit specific composition assignments will be given. Students are required to select and write on three of the above assignments.)

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE
	Student will be able to:
19. CREATIVE WRITING	19.1 Select words that appeal to the senses.
	19.2 Describe the senses of: a. Sound b. Smell c. Taste d. Touch e. Feeling
	19.3 Fill writing with vivid details.
	19.4 Use comparison to clarify writing: a. Simile b. Metaphor
	19.5 Develop the habit of close observation.
20. VOCABULARY	20.1 Understand ways to learn new words: a. List new words in notebook b. Add new words to speech and writing c. Learn new words based on context d. Learn meanings from dictionary
	20.2 Increase word selection a. Select word that conveys precise meaning b. Use of thesaurus
	20.3 Become familiar with prefixes and roots: a. "Borrowed" words of other languages b. Learn common Latin and Greek prefixes and roots.

ENGLISH COMPOSITION

BUSINESS/OFFICE OCCUPATION CURRICULUM UNIT

Within the Business/Office Occupation Cluster the approach to be used by English Composition will have a two-fold purpose:

- Gaining employment - interviews, application, personal history, etc., and
- Examination and discussion of jobs within this cluster.

Skills acquired in the curricular aspect of this cluster will contribute directly to the two objectives listed above. For example, skills acquired for effective interviewing will be enhanced throughout the unit by the student gaining knowledge of related items such as parts of speech, the sentence, and autobiographical research. This particular unit does not align one curriculum concept with one career concept; rather, it assimilates several curriculum concepts to contribute effectively to a single career concept.

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
1. Parts of Speech	1.1 Identify 1.2 Understand function 1.3 Examples	Job Applications	Define vocabulary found on application i.e., conviction, maiden name, references, citizenship, social security, compensation, selective service, major, perjury, falsification, spouse, etc.	1. Research dates and addresses of personal history. 2. Review of terms found and utilized on applications. 3. Guest speakers from personnel positions who will discuss completing and evaluating applications.
3. Spelling Unit	3.1 Rules 3.2 Confused words			
4. Mechanics of Grammar	4.1 Capitalization 4.2 Punctuation			
5. Extended Autobiography	5.1 Define 5.2 Construct 5.3 Self-awareness		Understand the uses and purpose of applications.	4. Complete an application (Supp. A-19)
	(Refer to "Detailed Overview")		Understand the uses of abbreviations. Understand loyalty statements as they apply to government related occupations. Organize personal information about oneself: - personal statistics, - educational experience, - work experience, and - references. Apply sound spelling, mechanics and grammar. Understand the techniques of following up an application.	

ENGLISH COMPOSITION

BUSINESS/OFFICE OCCUPATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
1. Parts of Speech	1.1 Identify 1.2 Understand function 1.3 Examples	Oral Interviews	Have general knolwedge as to the conduct and nature of job interviews. Follow specific instructions on optimal interview techniques, with stress on the following: - ability to communicate, - readiness to work, - appearance and actions, - promptness, and - inquiry on the part of the interviewee. Follow up the interview in manner appropriate to the company conducting the interview. Analyze successful as opposed to unsuccessful interviews, to improve interview skills.	1. Handout "Questions Most Asked During Interviews" (Supp. A-27) 2. Handout "Hints for Interview", GGUSD Job Placement Office (Supp. A-26) 3. Personnel Management guest speakers to discuss the following: - interview conduct - applications - having the right answers - having the right questions. Review and complete Supp. A-2, A-3, A-5. 4. Practice interviews conducted by Work Experience Coordinator. Examples of poor to excellent interview with students as interviewees.
2. The Sentence	2.1 Define and elements 2.2 Terms 2.3 Identify and construct 2.4 Define and examples			
5. Extended Autobiography	5.1 Define 5.2 Construct 5.3 Self-awareness (Refer to "Detailed Overview")			
2. The Sentence	2.1 Define and elements 2.2 Terms 2.3 Identify and construct 2.4 Define and examples	Business/Office Occupations Discussion and inquiry	Gain career awareness in the Office Occupations Cluster in the following areas: - Accounting - Computers - Secretarial Science - Management - Personnel - Finance - Insurance - Real Estate - Office (clerical)	1. Occupational Awareness mini-brief subject-oriented Occupational Packet. 2. Dictionary of Occupational Titles (D.O.T.) 3. Visit school "Career Center to research cluster related vocations. 4. Field trips and guest speakers: - City hall, - Personnel departments, - Secretarial pools, - School business dept., - Vocational schools. Review and complete Supp. A-2, A-3 and A-5. 5. Filmstrips and audio-visual materials: - overall view of cluster - specific jobs in cluster
3. Spelling Unit	3.1 Rules 3.2 Confused words			
4. Machanics of Grammar	4.1 Capitalization 4.2 Punctuation			
6. Term Paper	6.1 Research procedures 6.2 Use of research materials (Refer to "Detailed Overview")			

ENGLISH COMPOSITION

BUSINESS/OFFICE OCCUPATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
				Other activities/sources which may be applied within this unit - Student construct a CLIMB notebook; assimilation of related materials to include: . Hints for Interview; Supp. A-26, . Questions Most Asked During Interviews; Supp. A-27, . Completed Job Application, Supp. A-19, . Autobiographical worksheet; Supp. . Completed autobiography, . Field trip and guest speaker evaluations; Supp. A-15, . Certificate Program - refer to certificated program within respective high school being implemented; Supp. A-29, . All career related materials.

ENGLISH COMPOSITION

COMMUNICATION & MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
7. Using Modifiers	7.1 Distinguish use of adverbs 7.2 Change forms of modifiers in comparisons 7.3 Comparative and superlative forms.	JOURNALISM Reporters Copy & Proof Readers Columnists & Critics Manuscript Analysts Editors	Gain career awareness in the Communications & Media Cluster in the following general areas: Journalism Motion Pictures Telephone & Telegraph Recording Industry Radio & TV Broadcasting	1. Critique a show - teacher assigned 2. Report on news/sports event - proof, edit, present to class 3. Field trip to L.A. Times Orange County office.
8. Punctuation	8.1 Uses and applications of underlining. 8.2 Uses and applications of quotation marks.	MOTION PICTURES Producers & Directors Writing Personnel Special Artists Camera, Lighting, & Sound Personnel Film Processors, Editors, Librarians, Projectionists Costume & Make-up Personnel Scenery, Prop & Special Effects Personnel		1. Convert short story to dialogue and present to class - groups. 2. Critique a favorite movie 3. Cast a play . performers . writers . director . props and perform.
9. Public Speaking	9.1 Preparing a talk 9.2 Giving the talk			
10. Specific Writing Assignments	10.1 The critical review 10.2 Essay of opinion 10.3 Explain a process	TELEPHONE & TELEGRAPH Engineers Operators - all types Bench Worker, electrical equipment Installation & Repair Personnel		1. Technical Writing - explain a process: a. dial a telephone b. operating a machine c. preface to telephone book
		RECORDING INDUSTRY Production: Musician Singer Composer Lyricist Arranger Producer/Director Engineer		1. Lyric analysis 2. Score a film or slide presentation.
	10.4 Prepare a news script from a newspaper. 10.5 Read script in front of class--use of video tape	RADIO & TV BROADCASTING Broadcast Preparation Personnel Presentation Personnel Transmission Personnel Administration & Sales Service Personnel		Also: - Occupational Awareness mini-brief subject-oriented Occupational Packet. - D.O.T. - Visit Career Center - Field trips/speakers: studio L.A. Times, phone company, reporters, performers, etc. Supplements A-2, A-3, and A-5. - Filmstrips and audio-visual material

ENGLISH COMPOSITION

ENVIRONMENTAL CONTROL CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
11. The Limited and Extended Definition	11.1 Understand and construct a limited definition. 11.2 Understand and construct an extended definition.	POLLUTION PREVENTION & CONTROL Air Analyst Chemist Garbage Collection Inspectors Water/Sewer systems - all related jobs	Gain awareness in the Environmental Control Cluster in the following general areas - (Discussion and inquiry): Pollution Prevention & Control Disease Prevention Environmental Planning Resource Control	1. Construct both a limited and extended definition on one of the following terms: a. Pollution - any particular type b. Ecology c. Environment d. Technology e. Any term applicable to this cluster.
12. The Dictionary	12.1 Understand kinds of dictionaries. 12.2 Become familiar with kinds of information found in dictionaries.	DISEASE PREVENTION Insect Control Occupations Fumigation Health/Food & Drug Officers Hygienists Sanitation jobs	Gain insight on temperament, interest, and abilities common to members of the cluster through practical applications found in suggested activities sources.	2. Construct an extended definition on any career within this cluster.
13. Letter Writing	13.1 Understand the nature and construction of a business letter. 13.2 Understand the purpose of a "request" business letter.	ENVIRONMENTAL PLANNING Construction Engineer Geographer Engineers - sanitation, traffic, etc. Architect Urban Planner		1. Construct and mail a business letter to an official, an agency, or member of government offering a proposed course of action for some environmental problem (use of a particular piece of land, freeway construction, etc.). 2. Write and mail a letter requesting job information for any occupation within this cluster. 3. Report orally on responses to #1 and #2.
14. The Library	14.1 Learn arrangement of books within the library. 14.2 Learn use of: a. Card Catalogue b. Parts of a book c. Reader's Guide d. Vertical File e. Reference Books	RESOURCE CONTROL Zoologist Biologist Ecologist Fire Control Forest Occupations Game Management Discussion and inquiry of the above.		1. Attend, as a class, library orientation given by school librarian. 2. Research a particular problem found in the local area; gathing data, arguments for change, history of a problem. Be prepared to present research to mock "city council." . traffic control . noise abatement . air pollution . housing development . any problem area

Other Curriculum concepts applied in this unit:
2. The Sentence
3. Spelling Unit
4. Mechanics of Grammar
9. Public Speaking

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
				3. Conduct a mock city council meeting. debating and discussing pro's and con's of a particular environmental issue. Propose a course of action and arrive at a decision concerning the problem. Also: - Occupational Awareness mini-brief subject-oriented Occupational Packet. - O.E.K. - D.O.T. - Visit Career Center - Field Trips/Speakers (Supplements A-2, A-3, A-5) - Filmstrips and audio-visual material.

ENGLISH COMPOSITION

MARKETING AND DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
15. Levels of Usage	15.1 Standard and substandard 15.2 Formal and informal	MARKETING MANAGEMENT . Store Owner . Store Manager . Supervisor . Floor Manager . Merchandising Manager . Wholesaler . Sales Manager . Advertising Manager . Bureau of Standards Supervisor . Warehouse Manager . Stock Control Supervisor . Traffic Manager	Understand the role of management within this cluster: . planning . organizing . staffing . directing . controlling employees . controlling materials Discuss qualities needed for effective management.	Chronicle Guidance Occupational Library. Occupational Awareness mini-brief subject-oriented Occupational Packet. Discussion and investigation of each occupation within this phase of the cluster. Guest speaker from management field (Supp. A-2, A-3).
16. Effective Sentence	16.1 Style 16.2 Reorganize 16.3 Identify and examples 16.4 Vary length			
17. The Paragraph	17.1 Understand meaning and use 17.2 Identify and examples 17.3 Construct			
18. Exposition	18.1 Identify and perform 18.2 Understand and identify 18.3 Composition form			
15. Levels of Usage	15.1 Standard and substandard 15.2 Formal and informal	MARKET RESEARCH AND ANALYSIS . Market Research Analysis . Interviewer/Survey Worker . Investigator . Statistician . Tabulator . Economist . Systems Analyst	Understand the general process of marketing research as it applies to any given product. Read and evaluate statistical data from a systematic study of marketing conditions. Interpret statistical data into management and sales concepts.	Chronicle Guidance Occupational Library. Occupational Awareness mini-brief subject-oriented Occupational Packet. Discussion and investigation of each occupation within this phase of the cluster. Guest speaker from research and analysis field (Supp. A-2, A-3). A small group will be formed as a product evaluation team. Selected product will be researched, tested, and evaluated in written form.
16. Effective Sentence	16.1 Style 16.2 Reorganize 16.3 Identify and examples 16.4 Vary length			
17. The Paragraph	17.1 Understand meaning and use 17.2 Identify and examples 17.3 Construct			
18. Exposition	18.1 Identify and perform 18.2 Understand and identify 18.3 Composition form			

ENGLISH COMPOSITION

MARKETING AND DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
15. Levels of Usage	15.1 Standard and substandard 15.2 Formal and informal	SALES PROMOTION AND TRAINING . Product Designer . Package Designer . Fashion Coordinator . Account Executive . Display Man . Sign Writer . Commercial Artist . Sample Distributor . Model . Customer Service Specialist . Training Representative . Recruiter . Teacher	Define and give examples of the following emotional persuasion techniques: . emulation/identification . bandwagon . fear . anger . friendship . status . sex . altruism . pleasure Define and give examples of the following additional persuasive techniques: . logic - reason . comparison - contrast . factual analysis	Student will construct a paragraph utilizing emotional appeals selling a product or service of their choice, either real or fictional. Compare and contrast any two nearly equal products - auto, television, or major appliance - from consumer standpoint choose best product to suit own needs.
16. Effective Sentence	16.1 Style 16.2 Reorganize 16.3 Identify and examples 16.4 Vary length			
17. The Paragraph	17.1 Understand meaning and use 17.2 Identify and examples 17.3 Construct			
18. Exposition	18.1 Identify and perform 18.2 Understand and identify 18.3 Composition form			
15. Levels of Usage	15.1 Standard and substandard 15.2 Formal and informal	SALES . Salesman, Commodities . Salesman, Services . Sales Engineer . Field Contact Man . Dealer . Auctioneer . Solicitor . Coin-Vending Machine Attendant . Redemption Clerk . Party Salesperson . Pawnbroker . Peddler . Routeman . Sales Clerk	Analyze levels of usage used in typical advertisements. Identify word manipulation to achieve a desired effect in ads found in newspapers, magazines, radio, and television. Identify the elements of sound salesmanship: . advertising . belief in product . enthusiasm . product knowledge . determining customer needs . ability to communicate Differentiate between high and low pressure sales techniques.	Write a sales demonstration of any product requiring a step-by-step process. Write a single paragraph endorsing or selling a product of student's choice (real or fictional). Students will critically review selected student endorsements.
16. Effective Sentence	16.1 Style 16.2 Reorganize 16.3 Identify and examples 16.4 Vary length			
17. The Paragraph	17.1 Understand meaning and use 17.2 Identify and examples 17.3 Construct			
18. Exposition	18.1 Identify and perform 18.2 Understand and identify 18.3 Composition form			

ENGLISH COMPOSITION

MARKETING AND DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
15. Levels of Usage	15.1 Standard and substandard 15.2 Formal and informal	PURCHASING . Buyer/Purchasing Agent . Broker . Jobber (Distributor) . Importer	Understand the role of the "middle man" in marketing and distribution. Understand why each of the occupations listed in Purchasing are essential in the marketing of most products.	Chronical Guidance Occupational Library. Occupational Awareness mini-brief subject-oriented Occupational Packet. Discussion and investigation of each occupation within this phase of the cluster. Guest speaker from purchasing field (Supp. A-2, A-3).
16. Effective Sentence	16.1 Style 16.2 Reorganize 16.3 Identify and examples 16.4 Vary length			
17. The Paragraph	17.1 Understand meaning and use 17.2 Identify and examples 17.3 Construct			
18. Exposition	18.1 Identify and perform 18.2 Understand and identify 18.3 Composition form			
15. Levels of Usage	15.1 Standard and substandard 15.2 Formal and informal	PHYSICAL DISTRIBUTION . Warehouseman . Shipping/Receiving Clerk . Stock Boy . Material Handler . Packager . Marker . Inspector . Traffic Clerk . Butcher . Delivery Man . Mail Order Filler . Cashier-Checker	Understand the meaning of "entry level" jobs. Gain an understanding of the relationship between unions and the "entry level" work force.	Investigate and discuss "entry level" occupations. Chronical Guidance Occupational Library. Occupational Awareness mini-brief subject-oriented Occupational Packet. Guest speaker from local union to explain functions of unions (Supp. A-2, A-3).
16. Effective Sentence	16.1 Style 16.2 Reorganize 16.3 Identify and examples 16.4 Vary length			
17. The Paragraph	17.1 Understand meaning and use 17.2 Identify and examples 17.3 Construct			
18. Exposition	18.1 Identify and perform 18.2 Understand and identify 18.3 Composition form			

ENGLISH COMPOSITION

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
19. Creative Writing	19.1 Select words that appeal to the senses. 19.2 Describe the senses of: a. Sound b. Smell c. Taste d. Touch e. Feeling 19.3 Fill writing with vivid details. 19.4 Use comparison to clarify writing. 19.5 Develop the habit of close observation.	HIGHWAY TRANSPORT Driver Repair & Maintenance Dispatcher/Clerical Service Station Operator Driving Instructor Bus/Taxi Driver RAIL TRANSPORTATION Train Crew Freight Handling Passenger Service Yard Workers Safety Inspection Ticket Sales AIRBORNE TRANSPORTATION Flight Crew Safety Inspection Scheduling and Dispatching Ticket Sales Air Traffic Control Instruction Baggage/Cargo Personnel WATER TRANSPORTATION Ship, Tug, Barge, or Dredge Officers and Crew Piloting Harbor Control Wharf/Stevedoring Personnel Baggage/Container Handling Ticket Handling (Discussion and inquiry of the above.)	Gain career awareness in the Transportation Cluster in the following general areas (Discussion & Inquiry): Highway Transport Rail Transportation Airborne Transportation Water Transportation Gain insight on temperment, interest, and abilities common to members of the cluster through practical applications found in suggested activities/services.	1. Give detailed instructions to some remote place infrequently visited: a. a favorite campsite b. hunting/fishing spot c. a particular place of escape in the city d. fictionalized journey Include descriptions of reactions of senses involved and comparisons. 2. In groups construct a travel brochure for vacation to any site. Lead-up activities and brochure should include the following: a. gathering models from travel agencies b. gathering time schedules - travel agencies c. research on chosen vacation site - library d. itinerary e. mode of transportation throughout trip and detailed schedules (air, land, water) f. photographic layout g. artistic elements h. description of vacation area - emphasis on writing elements. Also: . Occupational Awareness mini-brief subject-oriented Occupational Packet . D.O.T. . Visit Career Center . Field Trips/Speaker: Harbor, Airport, OCTD (Supplements A-2, A-3, A-5) . Filmstrips and audio-visual material
20. Vocabulary	20.1 Understand ways to learn new words. 20.2 Increase word selection 20.3 Become familiar with prefixes and roots.			

ALGEBRA I

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course Algebra 1

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Recognition of Terms				X	X										
Simplification of Algebraic Expressions	X			X						X				X	X
Evaluating Formula	X	X		X	X			X		X				X	X
Solve Linear Equations/or Inequalities	X	X		X	X			X	X	X				X	X
Special Products & Factoring				X											
Simplification of Algebraic Fractions		X			X						X				X
Application - Ratio, Proportion & Percents	X	X		X	X			X	X	X	X			X	X
Solving Linear Simultaneous Equations/ or Inequalities		X								X	X				X
Direct & Indirect Measurement	X			X				X						X	X
Simplification of Radical Expression				X						X	X				X
Working with the Metric System				X				X		X	X				X
Introduction to Geometry & Trig.				X										X	X
Application of Scientific Notation								X							
Solution of Quadratic Equation										X					

COURSE RELATIONSHIP TO THE GOALS
FOR CAREER EDUCATION IN CALIFORNIA

Course Algebra

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.	X	X		X	X			X	X	X	X			X	X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.															
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.	X	X		X	X			X	X	X	X			X	X
4. Recognize that educational experiences are a part of total career development and preparation.	X	X		X	X			X	X	X	X			X	X
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.				X						X	X				
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.				X	X					X					
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.	X	X		X	X			X	X	X	X			X	X
8. Gain career orientation to increase exposure to the options available in the world of work.	X	X		X	X			X	X	X	X			X	X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.	X	X		X	X			X	X	X	X			X	X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.	X	X		X	X			X	X	X	X			X	X

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

CURRCIULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Evaluating Formula	I. Evaluate given formulas	I. Computations in Agribusiness area: 1. Agricultural Mechanics 2. Agricultural Supplies and Services 3. Agricultural Producets 4. Production of Agribusiness	I. Recognize Agribusiness problems as being solveable by formula/substitute proper values and compute by comparing and decide on the most feasible variables.	Text - Agricultural Mathematics, Higgs, Heidemeich, Loberger, Cropp & Mitchell Unit I Test Pages, 3-52 Unit III Test Pages 160-174 Unit IV Test Pages 199-217 Project: Students to measure given area at school in terms of acreage by tool. Suggested visitation areas for each job family: 1. Production agribusiness a. Dairy farm b. Feed lot c. Beef farm 2. Agricultural mechanics a. Machinery Assembly Plant b. Machinery dealer 3. Agricultural products a. Livestock market b. Packing plant c. Processing plant d. Lumber yard 4. Horticulture a. Nursery b. Greenhouse c. Fruit farm d. Florist Test - Modern Algebra - Dolciani Chapt. 2, Text pp. 35-60 Chapt. 8, Text pp. 288-292 Chapt. 8, Text pp. 308-311
II. Simplification of Algebraic expressions	II. Simplify algebraic expression within an equation	II. To compute values as determined by formulas that apply to particular Career situations: 1. Maximum production 2. Minimum overhead which includes: a. cost b. labor c. time 3. Marketing 4. Transportation 5. Quality control		
III. Application-Ratio Proportion & Percents	III. Solve equations using proportions & percents			
IV. Direct & Indirect Measurement	IV. Solve agribusiness problems using measurement formulas a. approximation b. measure by tool/formula			
V. Solve linear equations	V. Solve linear equations			

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

Storage Capacities of Buildings Problems

Formula: Volume = L x W x h

$V = \pi r^2 h$

1. A farmer purchases the following quantity of Douglas Fir lumber:

   10 - 2 x 4 x 10
   60 - 1 x 6 x 20
   4 - 4 x 4 x 16

   How many board feet is he buying?

2. Calculate the total cost of the following quantity of lumber selling at $225 per thousand (M).

   6 - 1 x 4 x 12
   2 - 4 x 6 x 14
   18 - 1 x 8 x 20

3. A farmer wishes to concrete his barnyard which is 80 x 160 feet. He will have a base of 4 inches of gravel covered with 3 inches of concrete. How many yards of each material must he purchase?

4. A farmer plans to build a 20 x 40 hog house. He will have footings 8 x 16 inches and a concrete wall 4 feet high and 8 inches thick on the footings. How much concrete will be required for both the footings and foundation wall?

5. How many bundles of seal-down asphalt shinges would be required to roof a one-third pitch gable roof on a hog house with a span of 20 feet and 60 feet long? Allow one foot extension for overhang on all ends. The roofing requires three bundles per square.

6. What is the pitch of a gable roof building with a span of 24 feet and a rise of 6 feet?

7. What is the rise of one-third pitch roof on a building with a run of 9 feet?

8. How long would the common rafter be for a one-third pitch roof on a building with a rise of 4 feet and an overhang of one foot on the rafter?

9. How many bushels of ear corn can be stored in a rectangular structure 7 feet wide, 14 feet high, and 46 feet long?

10. How many bushels of shelled corn can be stored in a round bin 27 x 18 feet? (The 27 is the diameter of the bin with 18 feet to the eaves.)

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

Agribusiness Problems

1. How many cubic yards of concrete are needed to make a concrete feeding lot which is 20 yards by 20 yards, if the concrete is to be 6 inches thick? How much would this cost if concrete is $19.75 per cubic yard?

2. What is the volume in cubic feet of a silo which has a radius of 5 feet and is 20 feet high?

3. What is the volume of a cone which has a radius of 10 feet and is 15 feet high?

4. What is the volume in cubic feet of a corn crib which is 20 feet long, 8 feet wide, and 12 feet high? If one cubic foot holds .4 bushel of corn, how many bushels of corn will the crib hold?

5. A farmer sold 120 bushels of Delicious and Winesap apples. He charged $4 a bushel for the Delicious and $3 a bushel for Winesap. If he received $453, how many bushels of each did he sell?

6. A garden supply dealer mixes rye grass worth 40¢ a pound with blue grass worth $1.30 a pound. If he wishes to make a mixture of 50 pounds to sell at 67¢ a pound, how many pounds of each kind should he use?

7. Perennial rye grass costs twice as much per pound as domestic rye grass. If Ronald paid $9.10 for 10 pounds of perennial rye grass and 15 pounds of domestic rye grass, how much was he charged per pound for each kind of grass?

8. If a dairyman has 200 pounds of milk testing 3% butterfat, how many pounds of skimmed milk must he remove to have 3.6% butterfat?

9. In certain localities, "approved milk" must contain 3.2% butterfat. How much skimmed milk may a farmer add to 200 pounds of milk testing 4.8% butterfat to obtain a milk testing 3.2% butterfat?

Straightline depreciation:

$$\text{Annual depreciation} - \frac{\text{Original Cost} - \text{Salvage Cost}}{\text{Life Expectancy}}$$

10. What is the annual depreciation on a $6,000 tractor with a 10-year life and $500 of salvage value?

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

Interest Problems

Annual interest rate = $\frac{2IN}{B_t (n+1)}$

I = Interest paid or the amount paid back -- the amount received.

N = Number of payment periods in one year.

B_t = Balance or amount received in a loan.

N = Number of actual payments.

Solve the following problems:

1. Mr. Jones purchased an electric welder for $250 with $20 down and the balance in eight payments of $25 every two months. Find the true annual interest rate.

2. Mr. Smith bought 20 feeder steers for $150 each, or a total of $3,000. He borrowed the $3,000 from a bank on a discount basis of 8 percent with the note payable in six months. Determine the true annual interest rate.

3. A person borrowed $1,000 at 6 percent interest for four months, payable at the end of four months. Determine the true annual interest rate.

4. Mr. Harris traded an old baler for a new one costing $2,250 with an allowance of $1,000 for the old baler. He was charged $125 for carrying costs, making a balance due of $1,250 + $125 or $1,375 with payments of $687.50 due at the end of 6 months and 12 months. Determine the true annual interest rate.

5. Mr. Williams built a new machine shed for $5,000. He paid $1,000 down and borrowed the remainder for one year under the following terms: Interest charged at 6 percent of beginning balance of $4,000, with principal and interest payable monthly over one year. Determine the true annual interest rate.

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

Force, Work, and Power Problems

Force (F) is that action of a body which tends to change the condition of rest, motion, or shape of any body or substance. It is usually expressed in pounds or kilograms.

Work (W) is a force acting on a body to produce motion and can be calculated by force times distance (D). Work equals F x D. It is usually expressed in foot-pounds or meter-kilograms.

Power (P) is the rate of doing work. The element of time (T) must be used to calculate power. Power equals $\frac{W}{T}$.

$$\text{Horse Power} = \frac{W}{T} \text{ in minutes} \times 33{,}000$$

$$W = F \times D \qquad P = \frac{W}{T}$$

Torque (tq) can be defined as a force moving in a circular direction to give a twisting action. It can be calculated by multiplying the force times the torque arm length (radius) TAL.

Problems:

1. A small tractor exerts 990 pounds of force when pulling a 200-pound bucket of ore out of a mine shaft a distance of 100 feet. The tractor accomplishes this job in exactly 60 seconds.

   a. How much work is being done?
   b. How much horsepower is required?

2. Two tractors are plowing in a field. Tractor A is pulling a 4 - 16 inch bottom plow at 5 miles per hour, and tractor B is pulling a 5 - 14 inch bottom plow at 4 miles per hour. Both plows are plowing at a depth of 7 inches. Assume a 12-pound-per-square-inch soil resistance. Which tractor is exerting the most horsepower?

3. A mounted, hydraulically operated plow is lifted 3 feet in 2 seconds. If the plow weighs 800 pounds, how much horsepower is required?

4. How much work is being done when a tractor and loader load 2 tons of manure on a spreader 4 feet off the ground?

5. How much horsepower is developed by a small gas engine which produces a pull of 20 pounds on a 6-inch pulley turning at 3,500 rpm's?

145

6. How many foot-pounds of work are done when a weight of 1,000 pounds is lifted vertically 50 feet? What horsepower would be required to do this work in 1 minute, 15 seconds?

7. A 5,000-pound load is lifted by a winch at a rate of 100 feet per minute. How much horsepower is being used?

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

Agricultural Mathematics Problems

1. How many gallons of Amiben are needed for 80 acres of soybeans, if 1-1/2 gallons per acre are applied?

2. How many gallons of Treflan EC are incorporated on 80 acres if the application rate is 1-1/2 pints per acre on medium- or heavy-textured soils with less than 4 percent organic matter?

3. How many gallons of 2,4-D amine (types with 4 pounds active ingredients per gallon) would be applied to 20 acres of what at 8 to 14 inches with an interseeded legume seeding if applied at 1/2 pint per acre?

4. How many pounds of active ingredient would be needed for 20 acres in Problem 3?

5. How many gallons Balan (benefin) (1-1/2 pounds of active ingedient per gallon) are needed for preplant incorporation for establishing legumes with the use of herbicides, if 3 quarts per acre are applied on 40 acres?

6. If Lasso costs $13.50 per gallon and Lorox costs $2.95 per pound, what was the total cost for both in Problem 7?

7. How much wetable powder would you put in a 400-gallon spray tank, if 20 gallons of water are applied per acre and 3 pounds of chemical pesticide are applied per acre?

8. How many gallons would you put in a 400 gallon spray tank, if 20 gallons of water are applied per acre and the application rate is 4 quarts per acre of emulsifiable concentrate?

9. If an airplane sprayer tank holds 75 gallons and 3/4 gallon of water is used per acre, how much pesticide is added to the tank if 1/2 pound is applied per acre?

10. If a 495-gallon roadside sprayer sprays 16.5 gallons per acre, how many gallons of pesticide are added if 3 quarts are applied per acre?

ALGEBRA 1

AGRIBUSINESS CURRICULUM UNIT

Liquid Measure

1 ounce = 8 drams
1 pint = 16 ounces
1 quart = 2 pints
1 gallon = 4 quarts
1 barrel = 31-1/2 gallons

Dry Measure

1 quart = 2 pints
1 peck = 8 quarts
1 bushel = 4 pecks
1 barrel = 105 quarts

Measure of Weight

1 ounce = 437.5 grains
1 pound = 16 ounces
1 short ton = 2000 pounds
1 long ton = 2,240 pounds
1 short hundredweight = 100 pounds

Measure of Area

1 square foot = [illegible] square inches
1 square yard = 9 square feet
1 square rod = 30.25 square yards
1 acre = 160 square rods
1 acre = 4,840 square yards
1 acre = 43,560 square feet
1 square mile = 640 acres

Measure of Length

1 foot = 12 inches
1 yard = 3 feet
1 rod = 16-1/2 feet
1 mile = 5,280 feet
1 mile = 1,760 yards
1 mile = 320 rods

Solve the following:

1. A hold of a certain freighter has a volume of 75,000 cu. ft. How many bushels of wheat can it hold?
2. How many bushels will a storage bin hold it if is 15 ft. long, 7 ft. wide, and 6 ft. deep?
3. How many bushels will a silo hold if it has an inside diameter of 20 ft. and a height of 35 ft.?
4. How many rods in one-quarter of a mile?
5. How many rods wide is a 40 acre field which is 80 rods long?
6. How many acres in an area of rectangular land which measures 660 feet x 132 feet?
7. How many total acres in 10 greenhouses which each measure 30 feet by 200 feet?
8. Turfgrass recommendations are based many times on 1,000 square feet. What portion of an acre is 1,000 square feet?
9. A forage frame which is one two-thousandths of an acre in size measures 3 feet in width by how many feet in length?
10. What portion of an acre is 145.2 feet x 3 feet (36 inch-row width)?

ALGEBRA 1

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Student will be able to:	
I. Evaluating Formula	I. Evaluate given formula A. Formula involving percents 1. $I = Prt$ 2. $A = P+Prt$ 3. $A = P(1+rt)^n$ 4. $P = rb$	I. The percentage mastery is a decision making tool used whenever there is a quantitative comparison evaluation in any office and business profession.	I. Evaluate percentage problems, noting type, computation, and comparison, giving maximum benefits.	I. Textbook - Modern Algebra, Dolciani, Chpt. 8 A. pages 289-291 B. Percents and Percentage problems - pp. 309-310 C. pages 370-378
II. Solve Linear Equations	II. Identify and solve the three types of percent problems. A. Finding a number when a percent of it is known. B. Finding a percent of a number. C. Finding what percent one number is of another.	II. This involves a study or survey and/or comparison of materials (computational tools).	II. Recognize, identify, and compute the three types of percent problems used in office and business occupations.	II. Application of skills with career related problems from text/supplemental materials.
III. Simplifications of Algebraic Fractions	III. Simplify both members of an algebraic equation.	III. Results are interpreted and a value judgment toward maximum benefits for individuals and/or groups. (Example: Which is a better buy, 5% compounded annually or 4-3/4% compounded quarterly?)	III. Solve investment problems graphically and algebraically.	III. Bulletin board materials-detail of all Business/Office related jobs with Occupational Awareness mini-brief subject-oriented Occupational Packet for student reference.
IV. Solve Linear Simultaneous Equations	IV. Solve and find the solution set by: A. Graphing B. Three different methods 1. Addition or subtraction 2. Multiplication plus addition and subtraction 3. Substitution	IV. Application A. Banking B. Types of interest 1. simple 2. compound C. Finance 1. types of investments D. Insurance 1. life 2. casualty 3. medical		IV. Source of reference materials: A. The Advanced Real Estate Primer, Westcottfessler pp. 267-283 B. Making Mathematics Plain, Rose & Ruth Welsa pp. 81-85 C. Practical Applications in Mathematics, Stein pp. 179-189 D. Ninth Year Mathematics, Isidore Dressler pp. 223-225 E. Algebra I, Russell Jacobs pp. 148-158 F. Films: -Insurance -Banking, Aetna Insurance Co.
V. Application-Ratio, Proportion & Percents	V. Compute the three types of percent problems. A. Skills 1. Change a percent to a decimal. 2. Change a decimal to a percent 3. Multiply decimal numbers. 4. Division of decimal numbers. B. Application of skills 1. Comparison of percents a. Valuation 1) types of interest payee-payer 2) savings & loans simple & compound 3) credit cards a) annual b) semiannual c) quarterly d) daily	V. Solving investment problems		V. Guest speakers and field trips, cluster-related vocations. (Supplements A-2, A-3, A-5)

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Per Cent Problems: Use the formula P=rb

1. A mechanic received a 15% increase in wages amounting to $12.30. What were his wages before the increase?

2. A lumber dealer sold a stack of lumber making a profit of $27.00 on the deal. If this represented a profit of 9%, what was the cost of the lumber?

3. A salesman earned $220.00 in commissions. If his commission was 8% of his sales, what was the amount of his sales?

4. A man received 150% of his hourly wage for every hour that he worked above 40 hours. If he worked 50 hours in a certain week at a base rate of $6.25 per hour, what was his overtime pay? What was his total salary?

5. A city department employs 1400 people, of whom 35% are clerks and 1/8 are stenographers. The number of employees in the department who are neither clerks nor stenographers is?

6. The price of eggs dropped from $.70 to $.63 a dozen. Find the per cent of the decrease in price.

7. Mr. Williams saved $576 from his annual income of $6,400.00. What per cent of his income did he save?

8. At what price each must a dealer sell shirts costing $21.60 a dozen to make a profit of 5% on the cost?

9. If 95% of a class of 40 students were promoted, how many students were left back?

10. During a sale, the price of a dress was decreased from $48.00 to $32.00. What was the per cent of the decrease in price?

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Percentage Problems

1. There were 120 planes on an airfield. If 75% of the planes took off for a flight, how many planes took off?

2. The price of a new car is $3450. Mr. Klein made a down payment of 15% of the price of the car when he bought it. How much was his down payment?

3. How much salt is in 30 ounces of a solution of salt and water which is 10% salt?

4. How much silver is in 75 pounds of an alloy which is 8% silver?

5. A baseball team won 8 games, which was 50% of the total number of games it played. How many games did the team play?

6. In a school there are 60 pupils who participate in a certain activity. If this is 12% of the student body, how many students are there in the school?

7. Helen bought a coat at a "20% off" sale and saved 12 dollars. What was the marked price of the coat?

8. A merchant sold a television set for $150, which was 25% above its cost to him. Find the cost of the television to the dealer?

9. After the price of a pound of meat was increased 10%, the new price was 99 cents. What was the price of a pound of meat before the increase?

10. After Mr. Sims lost 15% of his investment, he had $2550 left. How much did he invest originally?

BUSINESS/OFFICE RELATED MATH PROBLEMS

Discounts

1. Find the sale price when the regular price is $23.69 and the rate of reduction is 12%.

2. What is the rate of discount when the list price is $20.00 and the discount if $4.00?

3. On what list price is the discount $4.00 when the rate of discount is 5%?

4. Joe bought a bicycle for $98.00 less 18% discount. How much did he pay for it?

5. Find the regular price of a washing machine that sold for $188.86 at a 30% reduction sale.

6. What is the net price when the list price is $400.00 and the rates of discounts are 25%, 10%, and 5%?

7. Mr. Blake bought a suit marked $108.00 at a discount of 20%. How much did he pay for it?

8. If a dress marked $42.00 was sold for $36.00, what rate of dicount was given?

9. Mr. Evans purchased 6 stereo tapes marked $8.95 each at a discount of 10%. How much did he pay for them?

10. If shirts cost $48.00 a dozen less 10% and 15%, what is the cost of one shirt?

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Interest Rate Paid on Purchase Made by the Installment Plan

Use the formula: $R = \frac{24F}{P(N+1)}$

R = the rate of interest (to be found)

F = the carrying charge

P = the cash price less the down payment

N = the number of monthly payments

Exercises:

1. Bill bought a scooter bike on the installment plan. He paid $30 down and 12 monthly payments of $8.20 each. The cash price was $120. Find the installment price, carrying charge and the rate of interest to the nearest percent.

2. Mary could have purchased a new typewriter for $105 cash, but she bought it on the installment plan for $25 down payment and 9 monthly payments of $10 each. What was the installment price of the typewriter, carrying charge and the rate of interest? How much money could Mary have saved by borrowing the money at a bank at 6% to meet the cash price?

3. Mrs. Clark paid $300 down on a piano and $55 every month for 12 months. The cash price of the piano was $895. Find the installment price, carrying charge, and the rate of interest.

4. Mr. Simpson bought a car for $3000. He made a down payment of $136.50 each. Find the installment price of the car, the carrying charge and the rate of interest to the nearest percent. How much money could Mr. Simpson have saved by borrowing money at a bank at 10% to meet the cash price?

5. Mrs. Hill bought a new television set for $420. How much did she save by paying cash if the installment terms were $140 down and twelve monthly payments of $27.25?

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Banking Problems

Compute the proceeds on these discounted loans.

Use the formula D = Prt

1. $600 for 8 months at 6%.
2. $1500 for 18 months at 6.5%.
3. $450 for 3 months at 8%.
4. $1250 for 10 months at 7%.
5. $900 for 1 year at 7.5%.
6. $5000 for 15 months at 7.5%.
7. $2500 for 6 months at 7-3/4%.
8. $1340 for 6 months at 8%.
9. $15,400 for 5 months at 6.25%.
10. $21,000 for 4 months at 6%.

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Simple Interest Problems

Use the formulas:

$I = PRT$
$A = PTI$
$A = PTPRT$

Exercises:

1. How much money must be invested at 8% to earn an annual income of $6,000?
2. How many years will it take $1,000 invested at 5% to earn $450 interest?
3. Jose borrowed $50 and the end of 5 years paid $20 interest. Find the annual rate of interest.
4. Mrs. Smith paid $72 interest at the end of 3 years. How much money did she borrow at 6% per year?
5. Joan's brother borrowed $400 at 8% interest per year. How long was he in debt if he paid $28 interest?
6. The interest on an 8% loan for one year is $64. What is the principal?
7. Chris borrows $44,000 at 9-1/2% simple annual interest to open a cooking school. Compute the interest if she pays back the loan in 5 years.
8. Nancy borrowed $400 from a bank to buy a car, agreeing to return the money at the end of nine months. If she was charged an annual interest rate of 8%, how much did she have to return.
9. The daily interest rate at a local bank if .04794%. How much interest will a borrower have to pay for a 30-day billing period on a loan of $500?
10. Mr. Gans borrowed $400 from a bank at a rate of 7-1/2% for a period of 120 days. How much did he have to return?

BUSINESS/OFFICE RELATED MATH PROBLEMS

Simple Interest Problems

1. Mr. Williams owns eight $1,000 bonds, each bearing 3-1/4% interest. How much interest does he receive every 6 months?

2. How much money must be invested at 3% to earn $1,500 per year?

3. How many years does it take $200 invested at 4% simple interest to double itself?

4. A man bought a house for $16,000. He paid 20% down and gave a mortgage bearing 6% interest for the remainder. How much interest does he pay semi-annually?

5. On which investment does Mr. Johnson receive a higher rate of interest? He receives $157.50 semi-annually on an investment of $7,500 and $344 annually on an investment of $8,600.

6. A special savings account sends you a check for the interest earned each month. The rate if 6%. How much should you have in the account to get a check for $10 each month.

7. How much should you have in an account to earn $50 interest in 3 months at 5%?

8. Find the proceeds of a discounted note for $750 at 7% for 6 months.

9. Find the interest due on a primissory note for $2500 at 6% for two years.

10. Mrs. Jones purchased five $50 travelers checks and seven $20 travelers checks before going on a trip. If the charge for issuing travelers checks is 1% of the total amount, how much was she charged in total for the checks?

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Compound Interest Problems

Use the formula $A=P(1+rt)^n$ to compute the following problems.

A = amount
P = principal
R = rate
T = time in years
N = number of interest periods

	Principal	Rate	Time in years	Compounded
1.	\$200	2%	2	Annually
2.	\$400	4%	1	Semi-annually
3.	\$800	6%	1/2	Quarterly
4.	\$450	8%	1-1/2	Semi-annually
5.	\$2000	6%	1	Quarterly

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Banking Problems

Estimating true interest rates on add on loans:

Example: Estimate the true interest rate on a loan of $500 at 6% ad on, paid back in 10 monthly payments.

Use the following formulas:

1. $I = PRT$ $I = \$500 \times .06 \times 10/12$ $I = \$25$

2. $\text{Average Principle} = \frac{\text{Principle + Monthly Payment}}{2}$ $\frac{500 + 50}{2} = \$275$ Average Principle

3. $\text{Rate} = \frac{I}{PRT}$ $\frac{25}{275}\ 10/12 = \frac{25}{229.16} = 11\%$

Estimate the true interest rate on these add on loans correct to the nearest tenth percent.

1. $600 at 5% paid back in 6 monthly payments.
2. $450 at 5.5% paid back in 9 monthly payments.
3. $1050 at 6% paid back in 21 monthly payments.
4. $2700 at 5% paid back in 27 monthly payments.
5. $1920 at 6% paid back in 24 monthly payments.

BUSINESS/OFFICE RELATED MATH PROBLEMS

Investment Problems

Example: Mr. Harvey invested a part of \$1000 at 4% and the remainder at 6%. The annual income from the 4% investment exceeded the annual income from the 6% investment by \$30. Find the amount he invested at each rate.

Solution: Let p = the amount invested at 4%
Then $1000 - p$ = the amount invested at 6%

Investment	Principal in dollars	Annual rate of Income	Annual income in dollars
4% investment	p	.04	$.04p$
6% investment	$1000 - p$	.06	$.06\,(1000-p)$

The annual income from the 4% investment exceeded the annual income from the 6% investment by \$30. $.04p = .06\,(1000-p) + 30$

Exercises:

1. Mr. Sawher invested a sum of money at 4%. He invested twice as much at 5%. The total annual income from these investments was \$210. Find the amount he invested at each rate.

2. Mr. Traynor invested a sum of money at 4%. He invested a second sum, \$250 more than the first sum, at 6%. If his total annual income was \$90, how much did he invest at each rate?

3. Mr. Wayne invested a sum of money at 3%. He invested a second sum, \$150 less than the first sum, at 6%. The total annual income was \$54. Find the amount at each rate.

4. Mr. Jones invested a sum of money in 6% bonds. He invested \$400 more than this sum in 4% bonds. If his total annual income was \$116, how much did he invest in each kind of bond?

5. Mr. Fox invested a sum of money at 6%. He invested a second sum, \$2000 less than this sum, at 5%. He invested a third sum, which was \$3000 less than the first sum, at 3%. His total annual income was \$370. Find the amount he invested at each rate.

6. Mr. Ryan invested a sum of money at 6%. He invested a second sum, which exceeded twice the first sum by \$1000, at 10%. His total annual income was \$620. Find the amount he invested at each rate.

7. Mr. Hart made two investements, one at 4-1/2% and the other at 3%. The amount invested at 3% exceeded the amount invested by 4-1/2% by \$300. If his annual income from both investments was both \$152, find the amount invested at each rate.

8. Mrs. Johnson invested $4000, part at 5% and the remainder at 3%. The total annual income was, from both investments, $152. Find the amount invested at each rate.

9. Mr. Joyce invested $25,000, part at 4% and the remainder at 7%. The total income he received at the end of the year was $1,450. How much did he invest at each rate?

10. A sum of $3500 is invested in two parts. One part brings a return of 5% and the other a return of 8%. The total annual return is $250. Find the amount invested at each rate.

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Annual Life Insurance Premiums per $1,000

Age	10-Year Term	Ordinary Life	20-Payment Life	20-Year Endowment
15	$ 9.01	$18.08	$30.42	$51.05
16	9.10	18.45	30.87	51.15
18	9.29	19.23	31.79	51.33
20	9.52	20.02	32.69	51.44
22	9.68	20.87	33.59	51.54
24	9.80	21.79	34.53	51.65
25	9.87	22.28	35.01	51.70
26	9.93	22.78	35.52	51.76
28	10.11	23.89	36.57	51.92
30	10.40	25.09	37.71	52.15
35	11.78	28.75	41.04	53.11
40	14.51	33.57	45.25	54.91
45	19.30	39.84	50.47	57.77
50	27.07	48.08	57.02	62.13

Find the annual premium on each of the following policies:

1. Ordinary life for $1,000 issued at age 25.
2. 10-year term for $10,000 issued at age 35.
3. 20-payment life for $15,000 issued at age 28.
4. 20-year endowment for $12,000 issued at age 26.
5. 10-year term for $20,000 issued at age 30.
6. Ordinary life for 9,000 issued at age 45.
7. Mr. Harris bought a 20-year endowment life insurance policy for $4,000 at age 22. If he is alive at the age of 42, how much less will he receive than he paid in?
8. At the age of 24, Mrs. Wilson bought a 20-payment life policy for $7,000. What is the total amount of pre,ium she pays for the 20 years? Will the beneficiary receive more or less than Mrs. Wilson paid in? How much?
9. Approximately how many times as much ordinary life insurance can be bought for a given premium at age 30 as 20-year endowment insurance?
10. Mr. Patton took out at age 25 an ordinary life policy for $6,000. If he dies after paying 9 annual premiums, how much more did the beneficiary receive than Mr. Patton paid in?

BUSINESS/OFFICE RELATED MATH PROBLEMS

Actuaries

Actuaries are mathematicians that Life Insurance companies hire to determine the cost of various insurance policies. These actuaries study the records of births and deaths for many thousands of people. From this data they are able to predict about how many people can be expected to die at any given age.

The death rate, deaths per 1000, is computed as follows:

$$\frac{\text{Number of deaths during year}}{\text{Number of living at start of year}} = \frac{X}{1000}$$

MORTALITY TABLE
(Starting with 10,000,000 people at age 0)

Age	Number Living	Deaths Each Year	Deaths Per 1000	Life Expectation
0	10,000,000	70,800	7.08	71.17
10	9,805,870	11,865	1.21	62.38
20	9,664,994	17,300	1.79	50.37
30	9,480,359	20,193	2.13	41.25
40	4,241,359	32,622	3.53	32.18
50	8,762,306	72,902	8.32	23.63
60	7,698,698	156,592	20.34	18.23
70	5,592,012	278,426	49.79	10.12
80	2,626,372	288,848	109.98	5.85
90	468,174	106,809	228.14	3.06

Use the Mortality Table to answer the following questions:

1. How many of the original ten million persons will die at age 30?
2. What is the death rate (deaths per 1000) at age 70?
3. How many of the original ten million persons will die by age 50?
4. At age 70, what is the probability that death will occur within one year?
5. Find the probability that a person aged 20 will live to age 50.
6. How many people alive at age 10 will die before they are 30 years old?
7. Of 200,000 babies born, how many died during their first year of life?
8. Until what age can a person age 20 expect to live?

9. How many people per 1000 at age 60 will die beforythey reach the age of 70?

10. How many people at age 30 can be expected to live to age 40?

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Probability

Probability deals with the use of numbers to tell the likelihood of an event taking place. $P(E) = 0$

1. The probability of this event = impossible
   taking place is zero

2. $P(E) = 1$ indicates a certain event

3. $P(E) = 1/2$ neither impossible or certain

Probability Ratio: $$P = \frac{\text{no. of favorable outcomes in the event}}{\text{no. of elements in the set of all possible outcomes}}$$

$$P = \frac{F}{N}$$

4. An outcome is a special kind of event.

5. An event is a subset of the set of all possible outcomes.

Statistics - the collection, organization and analysis of data.

1. Any set of numerical facts can be called data.

2. Range - difference between the greatest score and the smallest score.

3. Frequency distribution table is used to organize and analyze data.

4. Histogram - a bar graph of a frequency distribution - easier to read.

5. Mode - score which occurs most frequently.

6. Median - a set of scores is the middle score after the scores have been arranged.

Probability Problems:

1. An insurance table shows that of a population of 10,000,000 persons, the death rate at age 5 is 1.24 per 1000. How many deaths does this represent?

   How many deaths from the 10 million population are represented by each of these ratios?

2. At age 10, 1.21 per 1000 ________________.

3. At age 15, 1.46 per 1000 ________________.

4. Out of 10 million population 16,390 died at age 18. What rate per 1000 is this? ________________.

Average Life Expectation:

At the age of:	0	1	5	10	15	20	25	30	35	40	45	50
Years male may expect to live	68.1	68.4	64.7	59.8	54.9	50.3	45.8	41.2	36.4	32.0	27.6	23.4
Years female may expect to live	75.4	75.6	71.8	66.9	61.9	57.1	52.3	47.5	42.5	38.0	33.4	29.0

5. To what age may a 15 year old expect to live? (male)

6. To what age may a 15 year old female expect to live?

7. How many years longer may a 20 year old female expect to live than a 20 year old male?

Find the age expectancy for the following ages:

8. 5

9. 20

10. 40

ALGEBRA 1

BUSINESS/OFFICE RELATED MATH PROBLEMS

Real Estate Problems

Vocabulary:

1. Assessed Value - value placed on property by the assessor and basis for the levy of taxes.
2. Assessor - an official, usually county or city, who determines the value of property for tax purposes.
3. Market Value - the best price a property would bring in dollars if freely advertised for sale.
4. Acre - an acre of land contains 43,560 square feet, or 209' times 209'
5. Commission - an agent's earnings in negotiating a real estate transaction; usually a percentage of the selling price, lease, rental, etc.

Exercises:

1. The Bartons are selling their house. The real estate agent's commission is deducted. What should be the selling price?

2. A real estate salesman receives a commission of 3% of each sale. What would be the salesman's commission for selling a $30,000 house?

3. A small apartment building has a market value of $51,000 and is assessed at 35% of this value. If the tax rate is $8.00 per $100 assessed value what is the amount of the annual tax?

4. Smith bought a home and sold it for $24,000, giving him a profit of 16% over what he paid for it. How much did he pay for it, and what amount of profit did he make?

5. A broker sold a duplex for $28,000 and received $1680 commission. What percentage of the sale price did he receive?

6. A broker charged 6% commission and earned $1200. What amount did the property sell for?

7. An industrial lot is 400 by 500 feet in size. It sold for 37-1/2¢ per square foot. What was the price paid?

8. A lot with 157 feet frontage by 233 feet deep sold for $18,290.50. How much did the seller receive per front foot?

9. Jones sold 10 acres for $80,000 and made 15% profit on his original purchase price. How much did he pay for the acreage?

10. Mr. Smith sold a duplex for $27,500 and suffered a loss of 18% from his cost. What had he paid for it?

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

	CURRICULUM CONCEPT		CURRICULUM OBJECTIVE		CAREER CONCEPT		CAREER OBJECTIVE		ACTIVITIES & RESOURCES
			Students will be able to:						
I.	Recognition of Terms	I.	Identify given terms	I.	Computation	I.	Students will be able to solve problems involving the evaluation of formulas: A. Perimeter 1. Square - $p = 4s$ 2. Rectangle - $p = 2L+2W$ 3. Triangle - $p = a+b+c$ B. Circumference 1. Circle - $c = \pi d$ or $2\pi r$ C. Area 1. Square - $A = s^2$ 2. Rectangle - $A = LW$ 3. Triangle - $A = \frac{6h}{2}$ 4. Circle - $A = \pi r^2$ 5. Rectangular Solid - $A = 2LW + 2LH + 2 WH$ 6. Cube - $A - 6s^2$ 7. Lateral area of a rectangle - $S = PH$ 8. Lateral area of a pyramid - $S = 1/2 PS$ D. Volume 1. Rectangular Solid - $V = LWH$ 2. Cube - $V = s^3$ 3. Cylinder - $B = \pi r^2h$ $V = 1/4 \pi d^2h$ 4. Cubic yds of concrete - Thickness measured in inches = $\frac{T'' \times W' \times L'}{12 \times 27}$ cu. yds $\frac{T' \times W' \times L'}{27}$ 5. Triangular Prism - $V = \frac{abh}{2}$ 6. Trapezoidal Prism - $B = \left(\frac{B + b}{2}\right)ah$ 7. Cylinder - $V = r^2h$	I.	Textbook - Modern Algebra Dolciani Berman/Freilich Chpt. 5, pages 157-195; Chpt. 8, pages 286-291
II.	Evaluate Formula	II.	Evaluate given formula	II.	To compute values as determined by formulas that apply to particular career situation: A. Cost B. Determine dimension 1. Perimeter 2. Area 3. Volume C. Time D. Materials E. Stress F. Power			II.	Mathematics for Carpenters, Robert Bradford, Section 4, Units 26, 27, & 28, pp. 157-196
III.	Direct & Indirect Measurement	III.	Solve construction related problems using measurement formulas. A. Approximation B. Measure by tool/formula					III.	Vocational & Technical Mathematics in Action, Samuel Levine, Chpt. 5, pp. 107-143
IV.	Simplification of Algebraic Expressions	IV.	Simplify algebraic expression within an equation.					IV.	Mathematics for Sheet Metal, Arthur F. Ahr, Section 9, pp. 169-188
V.	Solve Linear Equations	V.	Solve linear equations.					V.	Mathematics for Plumbers & Pipefitters, Bartholomew D'Arcangelo, Benedict D'Arcangelo, J. Russell Guest, Unit 2, pp. 4-7; Unit 52, pp. 144-145; Unit 50, pp. 140-141
VI.	Introduction to Geometry and Trig.	VI.	Solve angle problems A. Complementary B. Supplementary					VI.	Mathematics of the Shop, McMackin/Shaver/Weber, Unit 5, pp. 149-179
VII.	Working with the Metric System	VII.	Identify basic units of the metric system.					VII.	Related Math for Carpenters, P. Reband, Self-Check Test 23, pp. 59-60; Self-Check Test 25, pp. 65-66; Self-Check Test 26, pp. 61-74
VIII.	Simplification of Radical Espression	VIII.	Simplify radical expressions A. Factoring the perfect square B. By rationalizing the denominator						
IX.	Special Products & Factoring	IX.	Identify special products and factoring. A. Finding the greatest common factor B. Difference of two squares C. Trinomial square D. Factoring the product of binomial sums or differences E. Factoring the product of a binomial sum and a binomial difference						
X.	Application-Ratio, Proportion & Percents	X.	Solve equations using proportions and percents						

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

How to Determine Letter Value in Formulas

Solve:

1. Consider the formula bd. ft. = t" w" x l'. Find the number of bd. ft. if t = 1", w = 6", l = 12'.
2. A carpenter must determine the width of a room whose area is 368 sq. ft. and the length 23'. The formula is A = lw.
3. A carpenter has a board which has an area of 126 sq. in. The width is 9". What is its length? The formula is A = lw.
4. The total area of a cylinder with a radius of 21" is 6,732 sq. in. What is the height of the cylinder in inches? The formula is $A = 2\ \ rh + 2\ \ r^2$.
5. In the formula P = 2l + 2w, solve for P if l - 6', and w = 4'.
6. The circumference of a circle is equal to pi( ) times the diameter. The circumference measures 18.8496". What is the diameter?
7. Solve the formula $V = 4/3\ r^3$ if r = 3.
8. Find the length of a hip rafter (LH) whose run is 6' and length per foot run (l) is 18". The formula is LH = R x l/12.
9. In the formula p = 2l + 2w, find P if l equals 16" and w equals 14".
10. In the formula V = lwh, find l if V equals 64 cu. in., w = 4", and h = 8".
11. In the formula G = 7-1/2 lwh, find G if l equals 15', w equals 10', and h equals 5'.
12. In the formula A = 1/(1/a + 1/b), find A if a equals 4, b equals 6, and c equals 8.
13. In the formula R = 1/(1/a + 1/b = 1/c), find R if a equals 4, b equals 6, and c equals 8.

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Exponents in Equations

I. The volume of a cube is given by the formula $V = s$. Find the volume of a cube when:

1) $s = 5''$ 2) $s = 2'6''$ 3) $s = 1\text{-}1/4$ yds

II. The power (watts) used in an electric heating circuit is expressed by the formula, $P = I\ \ R$. Find the power, P used by a toaster taking a current, I, of 11 amperes if the resistance, R, is 2 ohms.

III. $V^2 = 2gh$ is a formula used by engineers and by physicists. Find h when $V = 25$ and $g = 32$.

IV. The volume V, of a sphere is given by the formula, $V = 0.5236d^3$, in which d is the diameter. What is the volume of a sphere?

a) 1" in diameter b) 10" in diameter

c) 2" in diameter d) 1 foot in diameter?

V. In the formula, $C = A(R^2 + 1/2B^2)$ find the value of C when $A = 2$, $R = 3$, and $B = 4$.

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Area of a Trapezoid

$A = h \times \frac{b1 + b2}{2}$ or $A = \frac{h}{2}(b1 + b2)$

Find the areas of trapezoids having the following dimensions:

	Height	Upper Base	Lower Base
1.	9 in.	8 in.	16 in.
2.	21 ft.	17 ft.	29 ft.
3.	13 yd.	46 yd.	53 yd.
4.	15 cm.	19 cm.	26 cm.
5.	85 mm.	102 mm.	97 mm.
6.	37 m.	26 m.	42 m.
7.	5-3/4 in.	4-1/2 in.	11-1/2 in.

8. Find the area of a section of a tapered airplane wing which has the shape of a trapezoid. The two parallel sides, measuring 4 ft. 3 in. and 5 ft. 9 in., are 16 ft. apart.

9. A porch roof consists of 2 sections each shaped like a trapezoid. The bases of one section are 11 ft. and 13 ft. and of the other 17 ft. and 19 ft. The distance between the bases in both sections is 8 ft. At the spreading rate of 250 sq. ft. per gallon, will a gallon of paint be sufficient to cover the entire roof?

10. Find the cost of seeding a lawn shaped like a trapezoid with bases of 33 ft. and 27 ft. and an altitude of 18 ft. One pound of grass seed covers 135 sq. ft. and costs $2.25.

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Angular Measure Problems

Rules and Examples:

One circle = 360 degrees °

One degree = 60 min. '

One minute = 60 sec. "

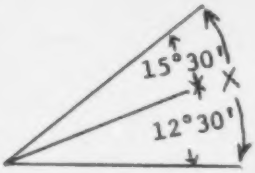
1. To change 60 degrees to a part of a circle, divide 60 degrees by 360. Therefore, 60/360 = 1/6 of a circle.
2. To change 16 min. to deg., divide 15 min. by 60: 15/60 = 1/4 or .25 deg.
3. To change .5 deg. to min., multiply .5 deg. by 60: .5 x 60 = 30 min.

Solve:

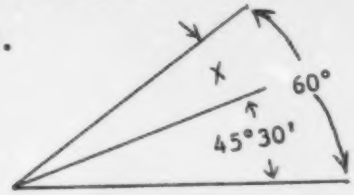
1. How many degrees are there in 1/8 of a circle?
2. How many degrees are there in 1/5 of a circle?
3. What part of a circle is 40 degrees?
4. What part of a circle is 120 degrees?
5. Change 45 min. to deg.
6. Change 12 deg. to min.

Find the value of each of the angles marked X.

7.



8.



9. How many degrees will there be in seven angles, each 8 deg., 30 min.?
10. If an angle of 90 deg., 30 min. is divided into 4 angles, what is the value of each angle?

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Levers

The lever is a bar or board. Its point of support is called the fulcrum. The distance from the point where the weight is located to the fulcrum is called an arm of the lever.

The law of the lever states that one weight (W) times the length of its arm (l) is equal to the second weight (w) times the length of its arm (l). Expressed as a formula this relationship is: $WL = wl$

1. When Marilyn sits 7 feet and Charlotte 6 feet from the fulcrum, they balance on the seesaw. How much does Charlotte weigh if Marilyn weighs 72 pounds?

2. Frank weighs 90 pounds and sits on a teeterboard 5 feet from the fulcrum. If Ed weighs 105 pounds, how far from the fulcrum must he sit to just balance Frank?

3. One arm of a lever is 8 inches long and the other is 10 inches long. If a weight of 4 pounds is placed on the 10 inch arm, how much weight if required on the 8 inch arm to balance the lever?

4. Where must a 120 pound weight be hung to balance an 80 pound weight hung 5 feet from the fulcrum of a lever?

5. Joe weighs 75 pounds and his cousin, Harold, weighs 50 pounds. If Joe sits 6 feet from the fulcrum teeterboard, where must Harold sit to balance the teeterboard?

6. How much downward pressure must Richard exert on a 9 foot lever arm to raise a weight of 135 pounds on a 6 foot lever arm?

7. Paul wants to lift a 60 pound rock with a 5 foot crowbar. If the fulcrum is 6 inches from the rock, how many pounds of pressure must he use to lift the rock?

8. How much downward pressure must be exerted to raise a 210 pound stone with a 6 foot crowbar if the fulcrum is 1 foot from the stone?

9. What downward force must be applied at a distance of 4 feet from the fulcrum to balance a downward force of 30 pounds applied 6 feet on the other side of the fulcrum?

10. What weight can Harry lift with a 5 foot crowbar when the fulcrum is 9 inches from the object and he exerts a downward pressure of 108 pounds?

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Electricity

Use the formulas:

(1) $E = IR$ (2) $W = IE$ (3) $H.P. = \frac{W}{746}$ (4) $K.W. = \frac{W}{1{,}000}$

(5) $K.W.Hr. = \frac{WT}{1{,}000}$

In these formulas E represents the electromotive force, sometimes called the difference in pressure or potential.

I represents the intensity of current or amount of electricity flowing and is measured by the unit called the ampere.

R represents the resistance of the conductor and is measured by the unit called the ohm.

W represents the power or rate of work done by the electric current and is measured by the unit called the watt. A kilowatt (K.W.) is 1,000 watts and is a unit measuring electric power. H.P. represents horsepower and is a unit measuring power.

The formula $E = IR$ shows the relationship between pressure, current, and resistance or between volts, amperes, and ohms.

The formula $W = IE$ shows the relationship between power, current and pressure or between watts, amperes, and volts.

1. How many amperes of current are passing through a 110 volt circuit with a resistance of 30 ohms?
2. An electric iron has a resistance of 12 ohms. If it is used on a 110 volt circuit, how many amperes pass through it?
3. How many volts are required to ring a bell having a resistance of 40 ohms if a current of 0.2 amperes is used?
4. An electric broiler takes 3.5 amperes on a 110 volt circuit. What is the resistance of the broiler?
5. What is the resistance of an electric toaster if it takes 5 amperes at 110 volts?
6. How many amperes of current are flowing through a 40 watt lamp when operated on a 110 volt circuit?
7. A heating coil takes 20 amperes at 125 volts. How much power in watts is it consuming?
8. A 605 watt waffle iron is used on a 110 volt circuit. How much current does it take and what is the resistance of the waffle iron?
9. Find the voltage when a 100 watt lamp takes 0.4 amperes?
10. What is the resistance of a 25 watt, 110 volt lamp?

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Determining Volume of Concrete

Use the following formulas:

(1) $$\text{Cu. Yd.} = \frac{t' \times w' \times l'}{27}$$

(2) $$\text{Cu. Yd.} = \frac{t'' \times w' \times l'}{12 \times 27} *$$

* When the thickness is measured in inches.

Solve:

1. How many cubic inches are in a box which measures 10" x 22" x 80"?
2. How many cubic inches are in a box measuring 12-1/2" by 14" by 22-3/4"?
3. How many cubic feet are in a box 3' by 4' by 6'?
4. How many cubic feet are in a box 2.8' by 3.5' by 7'?
5. How many cubic yards of dirt are excavated if the plot of dirt measures 36' by 60' by 6'?
6. How many cubic yards of dirt are excavated if the plot has sides measuring 6'?
7. How many cubic yards of concrete are required to pour a sidewalk 4" thick, 4' wide, and 72' long?
8. How many cubic yards of concrete are required to pour a concrete slab 4" x 27' x 62'?
9. What is the cost of concrete to pour a driveway 4" x 10' x 96' if the concrete sells for $16.25 per cubic yard?
10. How many cubic feet of concrete are required to pour a beam measuring 12" x 12' x 20'?

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Estimating Material By The Square

1. What is the area of a square whose sides measure 12'8"?
2. What is the area of a rectangle if its length measures 13' and width 11'?

Find the cost of the following:

3. A piece of linoleum 10" by 16" at $.95 per sq. ft.
4. A concrete sidewalk finish surface 4' wide and 160' long at $3.55 per square yard.
5. Roofing shingles installed on a roof 12' by 42' at $5.75 per square.
6. A room is 12' wide and 16' long. It has one door 3' by 7' and one picture window 8' by 5'. How many pieces of plasterboard which measure 4' x 8' are required to cover the walls allowing 10% of waste?
7. A certain roll of felt is 3' wide and 100' long. How many squares are there in the roll?
8. A room 25' x 30' is covered with linoleum which costs $0.75 per square foot. What is the total cost?
9. Subflooring of structures is nailed directly against the floor joist. If a floor measures 27'8" wide and 68-1/2' long, how many square feet of subflooring material are required? (allow 29% for waste)
10. An outdoor bandstand is constructed of bricks with a concrete floor. The floor is 21' in diameter. How many square feet of floor area are in the bandstand?

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Construction Problems

1. Mike is painting the walls of his room which is 14 ft. long, 12 ft. wide, and 9 ft. high. Find the area of the surface painted.

2. A painting contractor is painting the walls of a room 18 ft. long, 12 ft. wide, and 8 ft. high.

   a) Find the area of the walls.
   b) A gallon of paint covers a surface of 500 square feet. How much paint is needed?
   c) If the paint costs $10.80 per gallon, find the cost of the paint.

3. A room is 18 ft. long, 15 ft. wide and 9 ft. high. Find the total area of the walls and ceiling, allowing a deduction of 64 sq. ft. for the windows and doorway.

4. How many square feet of surface are in the wall of a swimming pool 75 ft. long, 3 ft. deep at one end, and 15 ft. deep at the other end?

5. How much asbestos paper covering is needed to enclose the curved surface and the two ends of a hot water storage tank 14 inches in diameter and 5 ft. high?

6. A circular flower bed 12 ft. in diameter has a circular walk 3 ft. wide paved around it. At 45¢ per sq. ft., how much did the walk cost?

7. A roofer shingled the roof of a shelter house on a campground. The roof is shaped like a square pyramid with a 25 foot square base and a slant height of 14 feet.

   a) Find the lateral area of the roof.
   b) One bundle of shingles covers 25 square feet. Find the number of bundles used.
   c) Find the cost at $3.25 per bundle.

8. Find the number of tiles 6 inches square needed for a floor 12' by 12".

9. Sam painted one of the triangular gables of a house. The base of the triangle is 12 feet, and the altitude is 6 feet. Find the area Sam painted.

10. Find the lateral area of a room, which is 14 ft. long, 10 ft. wide, and 9 ft. high.

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Perimeter, Area, and Volume

1. A contractor is planning to construct a swimming pool 45 feet long and 20 feet wide.

   a) If 7.5 gallons of water occupies 1 cubic foot of space, how many gallons will be required to fill the pool?

   b) If a layer of concrete 5' wide and 6" thick is to be poured around the pool, how much concrete will be required?

   c) If a fence is to be constructed around the pool just outside the concrete, how many feet of fencing are required?

2. A cement mason wants to know how many cubic feet of concrete he will need to pour a curb around a circular flower bed with a radius of 32 feet. If it takes 1/2 cubic foot of concrete to make a 1 foot curb, how many cubic feet of concrete will be required to enclose the flower bed?

3. How many feet of chain link fence will the fence-erector foreman need to order to enclose a square playground 66 feet on each side?

4. An excavating foreman has to supervise an excavation which is to be 48 feet long, 24 feet wide, and 7 feet deep. How many cubic yards of earth must be removed?

5. A plumber is installing a hot water heater. If the inside diameter of the tank is 18 inches and the inside height is 60 inches, how many gallons of water will the tank hold when filled? (one cubic foot contains 7.5 gallons)

CONSTRUCTION CURRICULUM UNIT

A list of some formulas used in construction and their meanings:

A) $P = SA$ (used in metal work and construction)
P = weight supported by a member in a structure, in pounds
s = allowable stress, in pounds per square inch
A = cross-sectional area, in square inches

Solve:

1. Find the weight that can be held by a wire 1/4" in diameter if the allowable stress is equal to 50,000 lb. per sq. in.

2. A wood post in a building supports a load of 8,000 lb. What is the cross-sectional area of this post if the allowable stress is 200 lb. per sq. in.?

B) $P = I^2R$
P = power used in an electrical circuit, in watts
I = current in the line, in amperes
R = resistance of the circuit, in ohms

1. Find the current in an electrical circuit that uses 1320 watts if the resistance of the circuit is equal to 45 ohms.

2. A circuit has a resistance of 8.5 ohms. If it takes 23 amperes, how many watts will it use?

3. Find the resistance of a circuit which uses 660 watts and carries 10 amps.

4. Find the current (I) in a 110 volt (E) circuit having a resistance of 5 ohms (R) if $R = \frac{E}{I}$?

5. Electrical conductors are measured in circular mils (CM). The circular mil area of a conductor is found by using the formula $R = \frac{10.4L}{CM}$, in which R = resistance, in ohms, and L = length of the conductor, in feet. Find the CM area of 1000 of conductor whose resistance is 0.5 ohms.

ALGEBRA 1

CONSTRUCTION CURRICULUM UNIT

Formulas Used in the Construction Field

(1) Perimeter of a square:
$P = 4s$

(2) Perimeter of a rectangle:
$P = 2l + 2w$

(3) Circumference of a circle:
$C = \pi d$

(4) Circumference of a circle:
$C = 2\pi r$

(5) Diagonal of a square:
$d = 1.414s$

(6) Area of a square:
$A = s^2$

(7) Area of a rectangle:
$A = lw$

(8) Area of a triangle:
$A = 1/2bh$

(9) Area of an isosceles triangle:
$A = .433x^2$

(10) Area of a regular hexagon:
$A = 2.598s^2$

(11) Lateral surface of a cylinder:
$S = 2\pi rh$

(12) Lateral surface of a sphere:
$S = 4\pi r^2$

(13) Area of a trapezoid:
$A = 1/2h(b_1 + b_2)$

(14) Volume of a cylinder:
$V = \pi r^2 h$

(15) Side of a square:
$s = \sqrt{A}$

(16) Diameter of a circle:
$d = \sqrt{\frac{A}{.7854}}$

(17) Diagonal of a rectangle:
$d = \sqrt{l^2 + w^2}$

(18) Diameter of a cylinder:
$d = \sqrt{\frac{V}{.7854h}}$

(19) Altitude of a trapezoid:
$h = \frac{2A}{b_1 + b_2}$

(20) Side of a triangle:
$a = \frac{2A}{b}$

ALGEBRA 1

CONSUMER & HOMEMAKING RELATED CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:			
I. Evaluate Formula	I. Evaluate given formula	I. Types of jobs considered in Consumer Homemaking are: A. Carpenter B. Gardener or grounds-keeper C. Painter D. Paper Hanger E. Plumber F. Technician 1. Air Conditioning 2. Heating		I. Textbook--Modern Algebra by Dolciani, Chapters 2 and 3, pp. 35-93; Chapt. 8 pp. 286-291
II. Solve Linear Equations	II. Solve linear equations of the form: $x + a = b$ $x - a = b$ $ax = b$ $\frac{x}{a} = b$ over the set non negative rational numbers.	II. Stucture of Cluster A. Clothing, textiles and fashion B. Family and child development C. Food and nutrition D. Housing and home management		II. Mathematics for Carpenters by Robert Bradford, Sect. 4, Unit 26, Unit 28, pp. 157-178.
III. Application-Ratio, Proportion & Percent	III. Solve equations using proportions and percents.	III. Professional and do-it-yourself home carpenter needs to know how to determine board feet.	III. Students should be able to determine needed board feet in given examples.	
IV. Simplification of Algebraic Expression	IV. Simplify both members of an algebraic equation.	IV. Determination of needed materials for different types of jobs.	IV. Students should be able to determine the area and materials needed to cover that area: A. Painting B. Lathing C. Paperhanging D. Roofing	
V. Recognition of Terms	V. Identify given terms	V. Students should be able to compute desired measurement as applicable to given situation: A. Homeowner to determine needed materials for home improvement jobs.	V. Students should be able to solve problems using: A. Perimeter $P=2L+2W$ $P=4s$ $P=a+b+c$ B. Area $A=LW$ $A=1/2(bh)$ $A=s^2$ $A=hx\frac{b_1+b_2}{2}$ C. Volume $V=LWH$ $V=e^3$ $V=\ r^2h$	

ALGEBRA 1

CONSUMER & HOMEMAKING CURRICULUM CLUSTER

Consumer Homemaking Problems

1. How many yards of linoleum are needed for a kitchen floor 11 ft. by 11 ft.

2. At $.06 per foot, what would be the cost of weatherstripping for a window measuring 3 ft. 9 in. by 3 ft. 9 in.?

3. How much would it cost at $2.40 per yard, to fence a 90 foot square garden?

4. How many plants are needed to go around the outside of a triangular flower bed if the plants are to be spaced 8 inches apart and the sides of the flower bed measure 18 ft., 14 ft., and 16 ft. respectively.

5. Find the cost of sodding a lawn 12 ft. 6 in. by 9 ft. 8 in. at $.08 per sq. ft.

6. How many square feet of sod are needed for a lawn shaped like a parallelogram with a base of 32 ft. and an altitude of 15 ft.? At $.06 per sq. ft., what would be the cost of the sod?

7. Find the cost of seeding a lawn shaped like a trapezoid with bases of 33 ft. and 27 ft. and an altitude of 18 ft. One pound of grass seed covers 135 sq. ft. and costs $.65.

8. At $3.40 per cu. yd., how much will it cost to dig a cellar 36 ft. long, 14 ft. wide and 8 ft. deep?

9. At $3.60 per sq. yd., find the cost of plastering the walls and ceiling of a room 15 ft. long, 13 ft. wide, and 9 ft. high.

10. A circular fountain 10 ft. in diameter has a circular walk 3 ft. wide paved around it. What is the area of the walk? At $.60 per sq. ft., what was the cost of the walk?

CONSUMER & HOMEMAKING CURRICULUM CLUSTER
Carpenter Problems

The board foot measurement is 1" thick 1' wide and 1' long.

$$\frac{\text{number of pieces} \times t'' \times w'' \times 1'}{12}$$

How many board feet are there in the following:

1. 2 pieces, 1/2" x 6" x 12'
2. 2 pieces, 2" x 5" x 12'
3. 3 pieces, 4" x 3" x 12'
4. 3/8" x 2' x 8' plywood?
5. 2 in thick, 4 in. wide, and 18 ft.
6. Find the cost of 1 piece of fir 2 in x 6 in. and 14 ft. long at 35¢ per board foot?
7. Find the number of board feet in 5 pieces of lumber which measures 3/4 inches.
8. Find the cost of a piece of antique elm 1" x 14" x 3' if it costs 55¢ per board foot.
9. Find the cost of six pieces of elm paneling 1/2" x 24" x 8' at 33¢ per board ft.
10. Find the number of board feet in 2 pieces of door jamb stock which measure 1-1/2" x 5-3/4" x 8'.

ALGEBRA 1

CONSUMER & HOMEMAKING CURRICULUM CLUSTER

Lathing, Plastering, Paperhanging, Painting, and Roofing Problems

1. If a bundle of rock laths covers 32 sq. ft., how many bundles of laths are needed to cover the walls and ceiling of a room 16 ft. long, 12 ft. wide, and 10 ft. high, subtracting 80 sq. ft. for door and window openings? At $2.40 per bundle, how much will the laths cost?

2. At $5.40 per sq. yd., find the cost of plastering the walls and ceiling of a room 15 ft. long, 13 ft. wide, and 9 ft. high. Allow 33 sq. feet for openings.

3. The walls and ceiling of a room 24 ft. long, 14 ft. wide, and 8 ft. high are to be covered with plasterboard. If 112 sq. ft. are deducted for openings, how many sheets of plasterboard, 4 ft. by 8 ft. each are required? How much will the plasterboards cost at $2.10 per sheet?

4. A single roll of wallpaper covers about 36 sq. ft. How many rolls are needed to cover the walls of room 16 ft. long, 12 ft. wide, and 9 ft. high if 72 sq. ft. of wall space is deducted for openings and 1 extra roll of paper allowed for the waste in matching? What is the cost of the wallpaper at $4.80 per roll?

5. The walls and ceiling of a room 18 ft. long, 16 ft. wide, and 12 ft. high are to be papered with double rolls each covering 72 sq. ft. If 10% is to be allowed for matching and 96 sq. ft. is to be deducted for openings, how many rolls are needed for the four walls? What is the cost at $7.20 per roll?

6. A room is 16 ft. long, 15 ft. wide, and 10 ft. high. Deducting 60 sq. ft. for openings, how many gallons of paint are needed to cover 400 sq. ft. one coat? At $9.60 per gallon, how much will the paint cost?

7. How many gallons of varnish are needed to cover a floor 19 ft. by 30 ft. two coats, if a gallon covers 285 sq. ft.?

8. How many double rolls of wallpaper are needed to cover the walls of a room 16 ft. long, 12 ft. wide, and 8 ft. high if each double roll covers 72 sq. ft.? Deduct 52 sq. ft. for opening and allow 1/2 roll extra paper for matching. Find the cost of the wallpaper at $5.95 per roll.

9. If three bundles, each containing 26 shingles, cover a square (100 sq. ft.) how many bundles of shingles are needed to cover a roof of 15 ft. by 40 ft.? What is the total cost of the shingles at $6.95 per bundle?

10. How many rolls of roofing are needed to cover the roof of a house 20 ft. by 35 ft. if each roll covers 100 sq. ft. (or 1 square)? At $9.50 per square, what is the cost of the roofing?

ALGEBRA 1

HEALTH CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Solve Linear Equations	I. Solve linear equations over the field of real numbers, noting the solution set and/or graphing.	I. Algebraic and computational skills are required for entry level placement in most health occupations.	I. Identify the requirements of mathematical skills in health occupations, i.e., Algebra 1 is a prerequisite of nurses training.	I. Textbook - Modern Algebra, Dolciani, Chapt. 5-8.
II. Evaluating Formula	II. Evaluate given formula	II. Math is not always used directly but is a foundation course for most health occupations or course work for health careers.	II. Show an awareness of the frequency of the use of mathematical concepts of ratio and proportions in health occupations.	II. Application of skills with career related problems from text/supplemental materials
III. Direct & Indirect Measurement	III. Solve health related problems using measurement formulas. A. Approximation B. Measure by tool/formula	III. Algebra is a requirement for most college bound students.	III. Show an awareness of the frequency of the use of the metric system in health occupations.	III. Health occupations supplemental materials Supplements B-26 to B-32, A-13)
IV. Application-Ratio, Proportion & Percent	IV. Solve equations using proportions and percents.	IV. Awareness of credential requirements: A. License to practice: 1. Doctor 2. Dentist 3. Nurse 4. Dental hygienist 5. Psychiatric technician 6. Medical technologist 7. Others B. Certifications/grants: 1. Recognition to those who have met certain qualifications. C. Registration: 1. Qualified individuals are listed on an official roster. D. Licensure/exam required.		IV. Bulletin board materials -detail of all health related jobs with Occupational Awareness mini-brief subject-oriented Occupational Packet for student reference.
V. Working with the Metric System	V. Identify basic units of the metric system. A. Actualized B. Written C. Abbreviation	V. The metric system is a standard unit of measure within the health occupations.		V. Research secondary, college and/or technical school math course requirements for entry into a student-selected occupation.
VI. Application of Scientific Notation	VI. Transfer number from standard notation to scientific notation and back.			VI. Source of reference materials: A. Math Concepts in Pharmacology, Joe Franks B. Arco Civil Service Test Tutor for Nurse and Laboratory Aide.
				VII. Guest speakers and field trips, cluster related vocations. (Supplements A-2, A-3, and A-5)

ALGEBRA 1

HEALTH RELATED MATH PROBLEMS

The Household System

The following abbreviations are of importance in using the household system:

gtt(s). = drop(s)
tsp. or t. = teaspoon
tbs. or T. = tablespoon
oz. = ounce

The household system of measurement is used for nursing in the home, and a household article may be used to measure the medication; teaspoons, tablespoons, drops, cups, and glasses are used for measurement in this system. The following relationships are used:

*60 drops = 1 teaspoonful
2 teaspoonfuls = 1 dessertspoonful
2 dessertspoonfuls = 1 tablespoonful
** 3 or 4 teaspoonfuls = 1 tablespoonful
2 tablespoonfuls = 1 ounce
6 ounces = 1 teacupful
8 ounces = 1 glassful
8 ounces = 1 cupful

* The volume of a drop varies with the viscosity of the liquid, the diameter of the dropper, the angle at which the dropper is held, and sometimes the temperature of the solution.

** The size of the teaspoon determines whether you use 3 or 4.

Refer to the preceding table and answer the following questions.

Use 3 tsp. = 1 tablespoon

1. How many teaspoonfuls are there in 2 tablespoonfuls?
2. One-half ounce contains how many tablespoonfuls?
3. How many tablespoonfuls equal 15 teaspoonfuls?
4. How many ounces are contained in 3 teacupfuls?
5. One-half teacupful contains how many ounces?
6. How many ounces are contained in 3 glassfuls?
7. How many glassfuls are in 8 ounces?
8. How many dessertspoonfuls are contained in 2 tablespoonfuls?
9. How many drops are contained in 2 teaspoonfuls?
10. One quarter teaspoonful would contain how many drops?

ALGEBRA 1

HEALTH RELATED MATH PROBLEMS

Problems for Dietetics

The following are related to dietary services:

1. Problem: A dietitian and/or a hospital food supervisor must be able to figure quantities of foods that need to be prepared and served to patients and employees. On Wednesday the local hospital had 150 patients and 200 employees for the noon meal. In addition to salads, fruits, and potatoes, the dietitian planned for each person to be served 1/2 cup of green beans, and 1/4 pound of meat (without bone). How many cups of beans and pounds of meat should be prepared?

2. Problem: Jello is a part of a liquid diet. An average of 25 patients will receive one serving of jello three times a day. Figure how much jello you would need to prepare to serve 75 servings. One box serves four and requires two cups of water for mixing. When figuring the amount, determine:

   a. How many boxes of jello you would need
   b. How many cups of water you would need to use to make the right amount

3. Problem: If 1-1/2 cups of cereal are used with 4-1/2 cups of water, the amount of water needed with 3/4 of a cup of cereal is:

   (1) - 2 cups (2) - 2-1/8 (3) - 2-1/4 (4) - 2-1/2

4. Problem: If 15 cans of food are needed for 7 men for 2 days, the number of cans needed for 4 men for 7 days is:

   (1) - 15 (2) - 20 (3) - 25 (4) - 30

HEALTH RELATED MATH PROBLEMS

# of platelets/cubic mm = (100) (200) (10)
= 200,000 platelets/cubic mm

Related Problems

1. Assuming 95 platelets are counted in the square mm chamber and the sample has been diluted 1:200, calculate the number of platelets per cubic mm.
2. Assuming 100 platelets are counted in the square mm chamber and the sample has been diluted 1:300, calculate the number of platelets per cubic mm.
3. Assuming 125 platelets are counted in the square mm chamber and the sample has been diluted 1:200, calculate the number of platelets per cubic mm.
4. Assuming a platelet count of 200,000 per cubic mm and the standard instrument is used with a 0.1 mm chamber depth, calculate the dilution factor.
5. Assuming a platelet count of 275,000 per cubic mm and the standard instrument is used with a 0.1 mm chamber depth, calculate the dilution factor.

HEALTH RELATED MATH PROBLEMS

10 Point Extra Credit Project

Most of the scientists in a hospital laboratory are medical technologists. Give a brief definition of each field of study:

1. Virology____________________
2. Toxicology____________________
3. Pathology____________________
4. Entomology____________________
5. Cytotechnology____________________
6. Hematology____________________
7. Serology____________________
8. Mycology____________________
9. Parasitology____________________
10. Bacteriology____________________
11. Radiology____________________
12. Dermatology____________________
13. Gynecology____________________
14. Neurology____________________
15. Anesthesiology____________________
16. Ophthalmology____________________
17. Otolaryngology____________________
18. Urology____________________
19. Audiology____________________
20. Physiology____________________

HEALTH RELATED MATH PROBLEMS

Pediatric Dosages

Section 1 Formulas for the Calculation of Infants and Children's Dosages.

A pediatric practitioner may calculate infants' and children's dosages with the use of the following rules:

$$\text{Child's Dose} = \frac{\text{weight of child in pounds}}{150} \text{ X Adult Dose}$$

$$\text{Child's Dose} = \frac{\text{age in years on next birthday}}{24} \text{ X Adult Dose}$$

$$\text{Child's Dose} = \frac{\text{age in years}}{20} \text{ X Adult Dose}$$

$$\text{Child's Dose} = \frac{\text{age of child in years}}{\text{age} + 12} \text{ X Adult Dose}$$

$$\text{Infant Dose} = \frac{\text{age in months}}{150} \text{ X Adult Dose}$$

Note: These can be worked using ratio and proportions.

Unknown Amount

$$\frac{X = \text{Desired Child's Dose}}{\text{Adult Dose}} \qquad \frac{\text{Age or Weight as stated in the Rule Being Used}}{\text{Divisor as Stated in the Rule Being Used}}$$

Known Amount

ALGEBRA 1

HEALTH RELATED MATH PROBLEMS

The Metric System

1. In the metric system, to perform the arithmetical operation of multiplication, it is necessary to move the decimal point to the ____________________.

2. To change from a larger denomination to a smaller denomination in the metric system, the arithmetical process of ____________________ is used.

3. 0.25 Gm. would become ____________________ mg.

4. The rule for converting grams to milligrams: To change grams to milligrams, move the decimal point ____________ places to the ____________.

5. The rule for converting liters to milliliters is the same. To change liters to milliliters or cubic centimeters, move the decimal point ____________ places to the ____________.

6. 7 liters would become ____________ ml.

7. CONVERT:

250 mg. to ____________ Gm.

500 Gm. to ____________ kg.

25 Gm. to ____________ mg.

100 mg. to ____________ Gm.

2 Gm. to ____________ mg.

60 mg. to ____________ Gm.

250 ml. to ____________ L.

10 ml. to ____________ cc.

0.5 L. to ____________ ml.

6.75 mg. to ____________ Gm.

3 kg. to ____________ Gm.

7 liters to ____________ cc.

2000 ug. to ____________ mg.

275 cc. to ____________ L.

600 mg. to ____________ Gm.

HEALTH RELATED MATH PROBLEMS

Metric System

1. Find the missing numbers:

a) 3 m. 8 cm. = __________ cm.
b) 9 km. 4 m. = __________ m.
c) 2 cm. 9 mm. = __________ cm.
d) 6 km. 5 m. = __________ km.
e) 8 cm. 3 mm. = __________ mm.

2. Express each of the following in meters:

a) 9 km. 6 hm. 4 dkm. 8 m. __________
b) 6 m. 5 dm. 1 cm. 9 mm. __________
c) 5 m. 3 cm. 2 mm. __________
d) 6 km. 4 m. 2 cm. 7 mm. __________
e) 2 km. 1 hm. 7 dkm. 5 m.
2 dm. 8 cm. 3 mm. __________

Change:

1. 24 liters to ml. __________
2. 19 kl. to liters __________
3. 9.6 cl. to ml. __________
4. 4,500 ml. to liters __________
5. 750 liters to kl. __________
6. 8.3 kg. to g. __________
7. 27 g. to mg. __________
8. 7.2 g. to cg. __________
9. 13.4 mg. to cg. __________
10. 6,290 g. to kg. __________

1. Sound travels in water at a speed of 1,450 meters per second. How many kilometers does it travel in 10 seconds? __________

2. How many 5 mg. tablets will be equivalent to a dose of 1 gram? __________

HEALTH RELATED MATH PROBLEMS

Methods of Calculation

Problems that are specific to pediatrics can be calculated using ratio and proportion.

Example:

Order: Phenobarbital (elixir) 30 mg.
Stock medication: 15 mg. per 4 cc.

30 mg. : X cc. :: 15 mg. : 4 cc.

$$\frac{30}{X} = \frac{15}{4}$$

$$X = 8 \text{ cc.}$$

Practice Problems:

1. Lanoxin 0.04 mg. is ordered.
   Vial reads: 0.05 mg. per cc.

2. Potassium Chloride 2.8 mEg. is ordered.
   Vial reads: 40 mEg. per 20 ml.

3. Atropine Sulfate 0.2 mg. is ordered.
   Vial reads: 500 micrograms per ml.

4. Sodium Phenobarbital 4 mg. is ordered.
   Vial reads: gr. ii or 120 mg. per ml.

5. Keflin 150 mg. is ordered.
   Vial reads: 1 Gm. per 4 ml.

6. Demoral 15 mg. is ordered.
   Demoral is available in 25 mg. per ml.

7. Streptomycin 150 mg. is ordered.
   Vial contains: 5 Gm. in 12.5 ml.

8. Elixir Dilatin gr. i is ordered.
   Bottle reads: 100 mg. per 4 ml.

9. Penicillin V Suspension 500 mg. is ordered.
   Label reads: 300,000 units per 5 ml.
   Each 180 mg. contains 3,000,000 units.

10. Pre-operative order:
    a. Nisentil 5 mg. (vial reads 60 mg./ml.)
    b. Scopolamine 0.15 mg. (vial reads 400 mcg./ml.)

ALGEBRA 1

HEALTH RELATED MATH PROBLEMS

Proportion

SOLVE:

1. $\frac{x}{4} = \frac{3}{6}$
2. $\frac{5}{x} = \frac{1}{2}$
3. $\frac{3}{1} = \frac{24}{y}$
4. $\frac{1}{x} = \frac{3}{18}$
5. $\frac{7}{2} = \frac{x}{6}$
6. $\frac{x}{10} = \frac{18}{5}$
7. $\frac{4}{a} = \frac{6}{8}$
8. $\frac{12}{15} = \frac{b}{25}$
9. $\frac{8}{12} = \frac{10}{y}$
10. $\frac{x}{20} = \frac{9}{15}$
11. $\frac{6}{4} = \frac{9}{x}$
12. $\frac{y}{2} = \frac{15}{5}$
13. $\frac{6}{10} = \frac{9}{7}$
14. $\frac{10}{12} = \frac{c}{18}$
15. $\frac{3}{x} = \frac{5}{10}$
16. $\frac{x}{14} = \frac{12}{21}$
17. $\frac{8}{20} = \frac{x}{15}$
18. $\frac{18}{10} = \frac{12}{x}$
19. $\frac{60}{100} = \frac{x}{15}$
20. $\frac{125}{100} = \frac{25}{x}$
21. $\frac{5}{8} = \frac{x}{100}$
22. $\frac{3}{x} = \frac{5}{7}$
23. $\frac{x}{6} = \frac{3}{4}$
24. $\frac{5}{2} = \frac{y}{5}$
25. $\frac{4}{6} = \frac{x}{1.5}$
26. $\frac{8}{x} = \frac{2}{.25}$
27. $\frac{2.4}{x} = \frac{3}{5}$
28. $\frac{2\text{-}1/2}{15} = \frac{x}{60}$
29. $\frac{x}{8} = \frac{4\text{-}1/2}{6}$
30. $\frac{8}{x} = \frac{3\text{-}1/3}{2\text{-}1/2}$

ALGEBRA 1

HEALTH RELATED MATH PROBLEMS

Proportions

Solve and check:

1. $\frac{x}{12} = \frac{3}{4}$ 2. $\frac{n}{36} = \frac{5}{9}$ 3. $\frac{c}{27} = \frac{2}{3}$ 4. $\frac{b}{6} = \frac{11}{15}$ 5. $\frac{a}{5} = \frac{7}{8}$

6. $\frac{2}{5} = \frac{b}{20}$ 7. $\frac{3}{8} = \frac{x}{56}$ 8. $\frac{5}{6} = \frac{y}{42}$ 9. $\frac{7}{12} = \frac{c}{16}$ 10. $\frac{14}{18} = \frac{w}{27}$

11. $\frac{9}{c} = \frac{3}{20}$ 12. $\frac{2}{y} = \frac{1}{12}$ 13. $\frac{10}{d} = \frac{5}{16}$ 14. $\frac{18}{x} = \frac{96}{64}$ 15. $\frac{6}{b} = \frac{4}{48}$

16. $\frac{16}{7} = \frac{96}{a}$ 17. $\frac{7}{9} = \frac{28}{n}$ 18. $\frac{72}{180} = \frac{8}{x}$ 19. $\frac{36}{54} = \frac{12}{d}$ 20. $\frac{4}{13} = \frac{15}{m}$

21. Joan saved \$25 in 9 weeks. At that rate how long will it take her to save \$175.

22. A motorist travels 204 miles in 6 hours. How long will it take him to travel 323 miles?

23. A tree casts a shadow of 26 feet, while a 5-foot post near by casts a shadow of 2 feet. Find the height of the tree.

24. Mr. Wilson pays \$228 taxes on a house assessed at \$9,600. Using the same tax rate, find taxes on a house assessed at \$11,800.

25. A picture 2-1/2 inches wide and 3-1/2 inches high is to be enlarged so that the height will be 7 inches. How wide will it be?

26. Find the value of V if V = 9, P = 4 and P - 12, using the following formula: $\frac{V}{V} = \frac{P}{P}$

27. Find the value of r if c = 132, c - 88, and r - 14, using the following formula: $\frac{c}{c} = \frac{r}{r}$

28. Find the value of W if F = 90, h = 4, and d = 16, using the formula: $\frac{F}{W} = \frac{h}{d}$

29. Find the value of R if R = 450, R - 600, and R = 720, using the formula: $\frac{R}{R} = \frac{R}{R}$

HEALTH RELATED MATH PROBLEMS

Atomic Weights (approximate)

Chlorine	(Cl)	35.5
Silver	(Ag)	107.9
Oxygen	(O)	16
Sodium	(Na)	23
Hydrogen	(H)	1
Sulfur	(S)	32
Nitrogen	(N)	14

1. What part of a mole is 24.5 Gm of H_2SO_4?
2. What weight of Na OH will neutralize this acid?
3. Write the equation for this reaction:
4. What weight of water will be produced by the reaction?
5. Silver Chloride is insoluble in water

   Silver Nitrate weighing 169.9 mgm is neutralized with Na Cl (table salt).

   How much is the weight of the Silver Chloride precipitate?

   Write the equation:
6. What part of a mole is precipitated?

ALGEBRA 1

HEALTH RELATED MATH PROBLEMS

The following are some suggestions for activities in mathematics to show the relationship between math and health occupations. When teaching how to figure doses of medicine for children, take advantage of the opportunity to stress allergies to drugs including allergies to aspirin.

Problem I:

Have students figure the amount of aspirin for a 1-year old child, 2-year old child, and a 4-year old child. (Average adult dose is 10 grains or two 5-grain tablets.)

Problem II:

Have students figure how many baby aspirin tablets to give a child 6 months old, 18 months old, and 24 months old. (Baby aspirin is 1-1/4 grain tablets.)

Sample problems to figure solutions:

1. How much salt is needed to prepare 1 pint of normal saline?
2. How much 1:20 solution can be made from 200 c.c. of a 20 percent solution?
3. How much lysol is needed to prepare one quart of 10 percent solution?

Formulas for figuring a child's dose of medicine:

Young's Rule:

$$\frac{\text{Age of child}}{\text{Age of child} + 12} \text{ X average adult dose} = \text{child's dose}$$

Clark's Rule:

$$\frac{\text{Weight of child}}{150} \text{ X average adult dose} = \text{child's dose}$$

Fried's Rule:

$$\frac{\text{Age in months}}{150} \text{ X average adult dose} - \text{child's dose}$$

HEALTH RELATED MATH PROBLEMS

Injectable Prepared Solutions Problems

Example: Histamine Phosphate Solution (1 Gm. Histamine Phosphate in 1000 cc.)

Order: Give 0.5 mg.

1 Gm. : 1000 cc. :: 0.5 mg. : X cc.
1000 mg. : 1000 cc. = 0.5 mg. : X cc.
1000X = 500
X = 0.5 cc.

Calculate the amount of stock solution necessary to administer the ordered dosage for a patient.

1. Sodium Phenobarbital 100 mg. in 1 cc. Give 60 mg.
2. Codeine Sulfate 30 mg. in 1 cc. Give gr. 1/4.
3. Penicillin 3,000,000 Units in 5 cc. Give 1,200,000 Units.
4. Morphine Sulfate gr. 1/6 in 1 ml. Give gr. 1/4.
5. Sodium Phenobarbital 0.1 Gm. in 1 cc. Give 50 mg.
6. Atropine Sulfate gr. 1/100 in 15 minims. Give gr. 1/150.
7. Morphone Sulfate 15 mg. in 1 cc. Give 10 mg.
8. Rubramin 1000 micrograms in 1 ml. Give 1 mg.
9. Demerol 50 mg. per cc. Give 75 mg.
10. Atarax 100 mg. /2 cc. Give 50 mg.

HEALTH RELATED MATH PROBLEMS

Alternate Methods of Conversion

To convert grams to grains, multiply by 15 or divide by 0.06

5 grams to X grains = 5 x 15 = 75 grains
0.5 grams to X grains = 0.5 x 15 = 7.5 grains

To convert grains to grams, divide by 15 or multiply by 0.06

90 grains to X grams = 90/15 = 6 grams
15 grains to X grams = 15/15 = 1 gram

To convert milligrams to grains, divide by 60

15 milligrams to X grains = 15/60 = gr. 1/4
75 milligrams to X grains = 75/60 = gr. 1-1/4

To convert grains to milligrams, multiply by 60

5 grains to X milligrams = 5 X 60 = 300 mg.
1/2 grain to X milligrams = 1/2 X 60 = 30 mg.

To convert grams (or cc.) to ounces (or fl. ounces), divide by 30

30 grams to X ounces = 30/30 = 1 ounce
240 cc. to X fluid ounces = 240/30 = 8 fluid ounces

To convert ounces to grams or cc., multiply by 30

6 ounces to X grams = 6 X 30 = 180 grams
10 fluid ounces to X cc. = 10 X 30 = 300 cc.

To convert drams to grams (or cc.), multiply by 4

2 drams to X grams = 4/4 = 1 dram
20 cc. to X drams = 20/4 = 5 fluid drams

To convert cubic centimeters to minims, multiply by 15 (16)

1 cc. to X minims = 1 X 15 = 15 minims
0.5 cc. to X minims = 0.5 X 16 = 8 minims

To convert minims to cubic centimeters, divide by 15 (16)

40 minims to X cc. = 40/16 = 2.5 cc.
5 minims to X cc. = 5/15 = 0.3 ml.

HEALTH OCCUPATIONS

Nursing Field

Persons who work in the nursing field may be registered nurses, licensed practical nurses, nurses' aides, orderlies, or attendants. There are essentially three ways a person may qualify to be a registered nurse.

1. Complete four years of work leading to a bachelor's degree in a nursing program at a college or university.
2. Complete two years of work leading to an associate degree in a junior college or a community college.
3. Complete three years of training leading to a diploma in the nursing school of a hospital or independent school.

Registered nurses wor[illegible] hospitals, doctors' offices, or in industry. They also work with public he[illegible]encies or as nurse educators.

One major responsibility of a registered nurse is to give medicine to patients under a doctor's direction. To do this, a nurse must have a knowledge of measurement and be able to use proportions in calculations.

EXAMPLE: A doctor wants a patient to have 25 milligrams of a medicine per dose. A solution is available which has 500 milligrams of the medicine in 10 milliliters of solution. How many milliliters of solution should a nurse measure for each dose?

SOLUTION: $\frac{25}{x} = \frac{500}{10}$

$$500x = 10(25)$$

$$500x = 250$$

$$x = 0.5$$

The nurse measures 0.5 ml for each dose.

ALGEBRA 1

HOSPITALITY AND RECREATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Solve Linear Equations	I. Solve linear equations	I. Algebra is a requirement for most college bound students.	I. Identify the requirement of mathematical skills in hospitality/Recreation occupations.	I. Textbook - Modern Algebra, Dolciani, Chapts. 7-8
II. Application-Ratio, Proportion & Percent	II. Solve equations using proportions and percents	II. Math is not always used directly but is foundation for most hospitality/recreation jobs.	II. Identify the frequency of the use of work problems related to compass readings and directions in small boat recreation.	II. Application of skills with career related problems from text/supplemental materials.
				III. Bulletin board materials -detail of all hospitality/recreation related jobs with Occupational Awareness mini-brief subject-oriented Occupational Packet for student reference.
				IV. Source of reference materials: Basic Seamanship and Safe Boat Handling, Blair Walliser.
				V. Guest speakers and field trips, cluster related vocations. (Supplements A-2, A-3 and A-5)

HOSPITALITY/RECREATION RELATED MATH PROBLEMS

1. A troop of scouts hiked to the county scout cabin at the rate of 2 miles per hour. They rode back to the headquarters at 18 miles per hour. If the round trip took 10 hours, how far is the headquarters from the cabin?

2. Tom sets out on a hike. After walking for awhile at 5 miles an hour, he discovers that he has forgotten his lunch. A passing truck takes him home at 20 miles per hour. When he gets home, he finds that he has lost exactly one hour. How far had he walked?

3. Jim took a trip of 1020 miles. He traveled by train at 55 miles per hour and the same number of hours by plane at 285 miles an hour. How many hours did the trip take?

4. A private airplane had been flying for 1 hour when a change of wind direction doubled the effective rate. If the entire trip of 240 miles took 2-1/2 hours, how far did the plane go in the first hour?

5. A jet plane traveling 600 miles per hour can make a certain trip in 33 hours less time than a train traveling at 50 miles an hour. How long does the train trip take?

6. Chris can paddle his canoe at 5 miles per hour on June Lake. In Fallow Run, he paddles 4 miles upstream and returns. The upstream trip takes 4 times as long as the downstream trip. How fast is Fallow Run?

7. A motorboat goes 25 miles downstream in the time it goes 15 miles upstream. The current flows at 5 miles per hour. What is the boat's rate in still water?

8. Leo swims at 2 miles per hour in still water. After he swims down a river for a quarter of a mile, returning takes three times as long as swimming downstream. Find the rate of the current.

9. Mr. Jones can run three times as fast as Mr. Smith. They started from the same spot at the same time and ran in opposite directions. The distance between them after 5 minutes was 1-1/4 miles. What distance did Mr. Jones run?

10. Two private planes leave cities 970 miles apart and travel toward each other. One plane's average speed is 40 M.P.H. greater than that of the other plane. If they meet in two and one-half hours, determine the speed of each plane.

ALGEBRA 1

HOSPITALITY/RECREATION RELATED MATH PROBLEMS

To find the lateral area of a pyramid, take one half of the product of the perimeter and the slant height.

The formula is $S = 1/2\ Ps$

1. Mike's tent is shaped like a pyramid with a base 7 feet square and a slant height of 5 feet. He waterproofed the tent before taking it to camp. Find the area that Mike waterproofed.

2. A monument on the camp grounds is shaped like a pyramid with a base of 5 feet square and a slant height of 12 feet. Find its lateral area.

3. The boys shingled a roof of the shelter house on the camp grounds. The roof is shaped like a square pyramid with a 25 foot square base and a slant height of 14 feet.

   a. Find the lateral area of the roof.
   b. One bundle of shingles covers 25 square feet. Find the number of bundles used.
   c. Find the cost at $3.25 per bundle.

   The lateral surface area of a right cone is one half the product of the circumference and the slant height. The formula is $S = 1/2\ (2\ r)s$ or $S = rs$

4. At the Boy Scout camp, Sam had a cone shape tent with a radius of 3-1/2 feet and a slant height of 6 feet. How many square feet of canvas were used to make the tent?

5. A water tank on the camp grounds has a conical roof. One Saturday morning the boys painted the roof, which had a slant height of 7-1/2 feet and a diameter of 10 feet. Find the area of the surface painted. (Use 3.14 for   ).

6. To fill their water jugs the boys used a funnel with a diameter of 8 inches and a slant height of 7 inches. Find the lateral area of the funnel.

7. The boys made paper cones for drinking cups. Each cone had a 4 inch diameter and a 3-1/2 inch slant height. Find the lateral area of one of the cones.

8. The boys built a rock garden in the shape of a pyramid with a base 8 feet square and a slant height of 5 feet. Find the lateral area of the rock garden.

ALGEBRA 1

MARKETING AND DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESCURCES
	Student will be able to:		Student will be able to:	
I. Evaluate Formula	I. Evaluate given formula	I. Percentage as applies to: A. Cost B. Pricing C. Profit D. Loss E. Markup	I. Identify the following terms and solve problems using: A. Wholesale B. Retail C. Markup D. Selling price E. Cost F. Discount rate G. Commision H. Trade discounts	I. Textbook - Modern Algebra, Dolciani, Chapt. 8 pp. 286-291; Chapt. 12-13, pp. 435-375
II. Simplification of Algebraic Expressions	II. Simplify algebraic expression within an equation.	II. Marketing and Distribution using: A. Mode - ex. (of shoe sizes) B. Mean - ex. (personnel for given time) C. Median - ex. (marketing of an item on cost)	II. Identify and graph using the mean, mode, and median in merchandising to find the peak periods.	II. Application of skills with career related problems from text/ supplemental materials. (Supp. #1).
III. Solve Linear Equations	III. Solve linear equations.	IV. Translate A. How to translate a rule of business and marketing into a math formula. B. Graph the formula to give a picture of business trends.	III. Interpret the mean, mode, and median in finding the most efficient means of transportation from raw data.	III. Bulletin board materials -detail of all marketing/ distribution related jobs with Occupational Awareness mini-brief subject-oriented Occupational Packet for student reference.
IV. Solve Linear Simultaneous Equations	IV. Solve and find the solution set by: A. Graphing B. Three different methods 1. Addition or subtraction 2. Multiplication plus addition and subtraction 3. Substitution	IV. Data collection - tabulation, graphing, merchandise, time - yearly and daily. A. Catetorizing - graphing or charting. B. Merchandising and time - peak periods. C. Transportation 1. Topology - easiest and cheapest way, and 2. Routing problems. D. Interpretation 1. Mean 2. Mode 3. Median 4. Percentage E. Selling 1. Merchandising 2. Time a. yearly b. monthly c. daily d. peak periods		IV. Source of reference materials: A. Merchandising Mathematics Carlo & Murphy, Unit 30, Test pp. 93-98 B. Applied Business Mathematics, Piper - Gruber Unit 13, Test pp. 393-395 C. Fundamentals of Mathematics, Stein, Chapter 15, pp. 521-526.
V. Application-Ratio, Proportion, Percent	V. Solve equations using proportions and percents.			V. Guest speakers and field trips, cluster related vocations. (Supplements A-2, A-3, and A-5)
VI. Working with the Metric System	VI. Conversions within the metric system.			
VII. Simplification of Racical Expression	VII. Simplify radical expressions A. Factoring the perfect square B. By rationalizing the denominator			
VIII. Solution of Quadratic Equation	VIII. Solve quadratic equations by three methods: A. Factoring B. Completing the square C. Quadratic Formula			

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Find all values of the variable for which each proportion is true.

(1) $\frac{x - 3}{x} = \frac{4}{7}$

(2) $\frac{y}{y - 16} = \frac{5}{3}$

(3) $\frac{5}{9} = \frac{3x + 2}{12}$

(4) $\frac{x - 4}{x} = \frac{5}{9}$

(5) $\frac{x}{x - 3} = \frac{7}{4}$

(6) $\frac{11}{6} = \frac{3x - 2}{27}$

(7) $\frac{12}{x} = \frac{x}{3}$

(8) $\frac{x + 1}{x} = \frac{x + 2}{x - 1}$

(9) $\frac{x - 1}{x + 3} = \frac{x + 3}{x}$

(10) $\frac{x + 3}{4} = \frac{x - 3}{3}$

(11) $\frac{45.6}{x} = \frac{76.5}{25.5}$

(12) $\frac{\frac{9}{5}}{\frac{3}{2}} = \frac{x}{6-1/2}$

(13) $\frac{x}{8-3/4} = \frac{6}{14}$

(14) $\frac{.56}{x} = \frac{6.72}{3.3}$

(15) $\frac{\frac{3}{4}}{\frac{5}{8}} = \frac{72}{x}$

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Proportion Problems

1. A retailer sells for $40 an article that costs him $25. At the same rate, what would be his selling price of an article that costs him $35?
2. If 9 yards of goods cost $7.50, how many yards can be bought for $50?
3. Two business partners divide their profits in a 5 to 3 ratio. Find each partner's share of a profit of $10,000.
4. At the rate of 8 yards for $70, what is the cost of 6 yards of carpeting?
5. A salesman was paid a commission of $20 for selling $250 worth of goods. What would be his commission on $350 of sales at the same rate of commission?
6. An investment of $21,600 results in a gain of $5,100. At the same rate of gain, how many dollars must be invested to return $11,900?
7. A trucking company used 42 gallons of gasoline for a trip of 720 miles. About how many gallons of gasoline will they need for a trip of 1000 miles?
8. If 3 shirts cost $11, what is the cost of 12 shirts at the same rate?
9. If 60 men can do a job in 8 days, how many men will be required to do the job in 5 days?
10. An investment of $3,000 yields a return of $240. At the same rate of return what will be the yield of an investment of $2,100?

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Find the Retail Price

Use the formula:

Cost + Markup = Retail Price

Find the retail price in each of the following:

	Cost	Markup Percent	=	Retail Price
(1)	$ 6.00	40%	=	
(2)	$720	35%	=	
(3)	$ 36.50	28%	=	
(4)	$ 21.60	30%	=	
(5)	$267.50	20%	=	
(6)		32%	=	$ 376
(7)		40%	=	$5,362.65
(8)		20%	=	$ 3.69
(9)		35%	=	$9,267.50
(10)		28%	=	$7,295

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Determining the selling price:

Formula: Selling Price -- Markup = Cost

Retailer's Cost	Desired Markup	=	Retailer's Selling Price
1) $15.86	35%		
2) $29.75	30%		
3) $34.50	40%		
4) $ 5.32	33 1/3%		
5) $ 7.59	45%		

6) For how much must a retailer sell an article that costs him $88 if he desires a markup of 45% on the selling price?

7) Tom purchases stationery sets from a wholesaler for $1.16 each. He wishes to make a gross profit of 20% on the selling price. At what price must he sell each set in order to make this gross profit?

8) A department store purchased towels at $5.76 per dozen. At what price must each towel be sold to gain 30% on the retail price?

9) A department store bought 1,000 pairs of shoes of the same style and quality for $5,320. At what price per pair should the store sell the shoes to gain 33 1/3% of the selling price?

10) A clothier bought boys' sweaters for $45 per dozen, less 20% and 10%. At what price must he sell each sweater to make a gross profit of 40% on the retail price?

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Markup Problems

Use the formulas:

Cost + Markup = Selling Price

$$\left.\begin{array}{l} \text{Markup percent} = \dfrac{\text{Markup}}{\text{Cost}} \\ \\ \text{Selling price percent} = \dfrac{\text{Selling price}}{\text{Cost}} \end{array}\right) \quad \text{based on 100\%}$$

$$\left.\begin{array}{l} \text{Markup percent} = \dfrac{\text{Markup}}{\text{Selling Price}} \\ \\ \text{Cost percent} = \dfrac{\text{Cost}}{\text{Selling price}} \end{array}\right) \quad \text{based on 100\%}$$

Solve the following problems:

1) A furniture store put a markup of $8.75 on some end tables that cost $25. Find the selling price, the markup percent on cost and the selling price as a percent of cost.

2) A manufacturer had a markup of $5.83 on some handbags that he sold for $27.83. Find the cost, the markup percent on cost and the selling price.

3) A wholesaler put a markup of 26 percent on cost on some goods for which he paid $4.50. Find the markup, selling price and the selling price as a percent of cost.

4) A manufacturer of games sold some novelty playing cards that cost him $7.36 per dozen decks to produce at a selling price that was 225 percent of his cost. Per dozen find the selling price, the markup, and the markup percent on cost.

5) A jobbing house sold toys at a markup of 35 percent on cost. For a toy on which the markup was $1.75, find the cost, the selling price and the selling price as a percent of cost.

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Markup & Selling Price Problems

Markup - selling price x markup percent

Selling price = $\frac{\text{markup}}{\text{markup percent}}$

Selling price = $\frac{\text{Cost}}{\text{Cost percent}}$

Solve:

1) A merchant put a markup of $2.10 on some goods that cost $3.90. Find the selling price, the markup percent on selling price and the cost as a percent of selling price.

2) A wholesaler of plumbing supplies priced a faucet at $12.50. If the cost was $10.20, find the markup, the markup as a percent of selling price, and the cost as a percent of selling price.

3) A retailer put a markup of $15 on a suit that he sold at $40. Find the cost, the markup percent on the selling price and the cost as a percent of selling price.

4) A drugstore sold a line of cosmetics at a markup of 33 percent on the selling price. For a bottle of lotion on which the markup was $1.65, find the selling price, the cost, and the cost as a percent of selling price.

5) A store paid $22.26 for table radios. If the markup was 36.4 percent of the selling price, find the cost as a percent of the selling price, the selling price and the markup.

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Finding the Net Cost

Use the formula: Net Cost=List Price x (1-First discount rate) x (1-Second discount rate)

List Price	Discount Series
1) $1,620	25% and 20%
2) $1,800	20% and 15%
3) $6,200	30% and 10%
4) $ 840	16-2/3 and 5%
5) $2,496	33-1/3 and 12-1/2%

6) The list price of a rug is $36.00. If this price is subject to discounts of 16-2/3% and 10%, what is the net price?

7) A dealer received from a wholesaler an electric refrigerator that was cost the dealer $210.00, less discounts of 12-1/2% and 20%. Find the net price of the refrigerator.

8) Find the amount due on goods invoiced at $1,268, subject to discounts of 40%, and 20%.

9) On men's neckties, listed at $24.00 a dozen, discounts of 12-1/2% and 10% are allowed. Find the net cost of each tie.

10) A furniture dealer bought 12 bookcases listed at $16.20 each, subject to discount rates of 20% and 10%. If the freight cost was $22.50, how much did the bookcase cost?

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Net Profit

Selling - (Cost + Operating Expenses) = Net Profit

Solve:

1) An automobile accessories store buys tires at $9.90 and sells them at $16.50. The store figures its operating expenses at 28% of net sales. What net profit is realized on each tire?

2) Milliken and Company, retail paint dealers, purchased a quantity of paint for $225 and sold it for $375. They estimate their overhead at 32% of net sales. What was their net profit?

3) A store purchased 30 table lamps for $375, less 10% and 10%. It sold 15 of the lamps at $20 each, 10 at $17.50, and 5 at $15. What amount of net profit did the store realize if its cost of doing business is 35% of net sales?

4) A retailer buys bicycles at $36 each, less 15% and 10% plus a freight charge of $1.26 on each bicycle. If he sells them at $45 and his operating expenses are 24% of net sales, what is his net profit on each bicycle?

5) A candy store bought 250 boxes of candy at $.85 a box. The store sold 240 boxes at $1.25 a box. Ten boxes spoiled and were thrown away. The store's operating expenses average 22% of net sales. What net profit was realized on the entire transaction?

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Trade Discounts

The term 3/10, N/30 means that a 3% discount is allowed if the bill is paid within 10 days and the full amount is due by the 30th day.

Solve:

1) What is the net price when the catalogue list price is $76.50 and rate of trade discount is 15%?

Find the cash discounts received and net amounts paid:

	Amount of bill	Terms of payment	Bill paid on
2)	$ 16	2/10, N/30	4th day
3)	$239.50	5/10, N/60	15th day
4)	$ 89.25	4/15, N/60	10th day
5)	$348.20	3/10, N/30	9th day

6) What is the net price when the list price is $80 and the rates of discounts are 20% and 5%?

7) What is the trade discount when the catalogue list price is $12.95 and rate of trade discount is 8%?

8) A furniture store advertised a 25% reduction on all articles. What is the sale price of a living room suite marked $375?

9) If a dress marked $24 was sold for $19.20, what rate of discount was given?

10) On which is the rate of discount greater and how much greater, a rug reduced from $120 to $90 or one reduced from $80 to $56?

MARKETING AND DISTRIBUTION RELATED MATH PROBLEMS

Percentage Problems

1) What must the selling price of goods be to allow a net profit of $56 if they cost $287 and the operating expenses are $29?

2) Find the margin or gross profit on an article when the operating expenses are $13.25 and the net profit is $68.50.

3) What is the rate of markup on cost if the margin is $16 and the cost is $48?

4) If the cost is $30, operating expenses are $6.75 and net profit is $5.25, what is the percent markup on cost?

5) If the cost is $18, operating expenses are $3.16, and markup is 30% on cost, what is the rate of net profit on the selling price?

6) What is the rate of loss on the cost if the loss is $8.40 and the cost is $140?

7) A kitchen sink costing $130 was sold for $195. If the overhead expenses were 19% of the selling price, what was the net profit?

8) A dealer bought softballs at $21 a dozen and sold them for $3 each. What percent of the selling price was his margin?

9) At what price each must a merchant sell shirts to realize a gross profit of 20% on the selling price if he buys them at $67.20 a dozen?

10) A manufacturer sold coats to a retail merchant, making 20% profit on the cost of each coat. If the merchant sold these coats for $45.50 each, making 30% on the cost, how much did each coat cost the manufacturer?

ALGEBRA 1

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Simplification of Albegraic Fractions	I. Simplify algebraic expressions.	I. A manufacturer must produce a product that people need or will use: A. First step in making a new product is testing to see if people will buy it. B. Manufacturer must find the best way to make the product with its greatest profit.	I. Find the amount of material needed to produce various items.	I. Textbook - Career Mathematics, Lying, Mecari, Zavick, Chapt. 12, Manufacturing, pp. 357-376
II. Solving Simultaneous Linear Equation	II. Solve simultaneous linear equations over the set of rational numbers. A. Noting its solution set by rule, roster, and graphing on a number line.	II. Workers in Manufacturing A. Refine ore and petroleum B. Process foods and chemicals C. Print books and newspapers D. Spin and weave textiles E. Fabricate clothing and footwear.	II. Work problems involving forming, joining and separating materials.	II. Textbook - Practical Math Hobbs, and McKinney, Chapt. 9, Ratio & Proportion, pp. 289-297
III. Application-Ratio, Proportion, Percent	III. Solve equations using proportion and percents.	III. Manufacturing Occupation A. Machinists B. Mechanical-Engineering Technician C. Air Conditioning Refrigeration and Heating Mechanics D. Electrical and Electronic Technicians	III. Work problems related to packaging and marketing a product.	III. Textbook - Math in Life, Chapt. 10, Ratio & Proportion, pp. 202-210
IV. Working with the Metric System	IV. Convert within the metric system.	IV. Computations in Industry A. To read several kinds of industrial meters: 1. Electric and gas meters B. To read and interpret bar and line graphs C. To take precise measurements with inch and centimeter rulers D. To read and interpret technical drawings		IV. Textbook - Modern Algebra, Dolciani, Berman and Freilich, Chapt. 8, Working with Fractions, pp. 314-316
V. Simplification of Radical Expression	V. Simplify radical expressions A. By factoring the perfect squares B. By rationalizing the denominator.			V. Supplement B-42.

MANUFACTURING PROBLEMS

1. At a bottling company the bottles pass by a visual inspection point at the rate of 5 bottles per second. How many bottles must be inspected each hour?

2. In a visual inspection on an assembly line, 18 defective items were found in an hour. If the items move through the line at the rate of 500 items per minute, what percent were defective?

3. A certain type of tire has 1/4" of usable tread. Testing indicates that under normal conditions 1/32" of tread is used for each 6000 miles of travel. For how many miles should this tire last?

4. During testing of transistors it was found that 5 out of 600 tested were defective. What percent were defective?

5. A factory produces 5,000 light bulbs per 8-hour shift. One bulb of each 150 is tested. How many bulbs must be tested during each shift?

6. What is the selling price of an item if the cost to the merchant is $2.98, his expenses are $0.23, and his profit is $0.29?

7. If an item sells for $10.95 and the cost and expenses to the dealer are $8.75, what is his profit?

8. An item sells for $12.98. The dealer knows that 20% of the selling price must be used to pay expenses. How much were the expenses on this item?

9. A company has gross sales of $1.5 million. It spends $120,000 for advertising. What percent of its gross is spent on advertising?

10. What is the percent of profits on an item that sells for $49.95 if the expenses are $5.00 and the cost if $39.95?

MANUFACTURING PROBLEMS

1. One mold can be used to produce 5 castings per hour. How many castings can be produced by 2 molds in 3 hours?

2. If molten iron is to be used for making castings, about 10% of it is lost during the casting process and is recycled for future use. How much iron is recycled if one ton of molten iron is used?

3. It costs a soft drink company 1.5 cents to produce one new bottle. The company uses 3 million bottles per year. 80% of the bottles it uses have been recycled and the rest are new. What is the cost of producing new bottles each year?

4. A press stamps metal parts. Each part contains .25 pounds of metal. How many tons of metal are needed to produce one million parts?

5. A bottle contains 125 cu. cm of glass. How many of these bottles are needed to make 100 cubic meters of crushed glass?

6. A high speed steel drill bit has a cutting speed of 70 rpm. If the drill bit has a diameter of 3/8 inch, what is the rpm of the bit?

7. A piece of wood with a diameter of 1/3 ft. is being turned in a wood lathe at 550 rpm. What is the cutting speed?

8. A gas cutting torch will burn for 4 hours on one tank of gas. If the torch is capable of cutting 6 pieces per minute, how many pieces can be cut with one tank of gas?

9. A painter applies a primer coat at the rate of 150 sq. ft. per hour and is paid $5.50 per hour. How much will it cost to have the painter paint 1200 sq. ft?

10. Rosin-core solder for use in printed circuits contains 60% tin and 40% lead. How much tin is contained in a one pound spool of this solder?

ALGEBRA I

MANUFACTURING CURRICULUM CLUSTER

WORK PROBLEMS

1. A press can print one day's newspaper in 4 hours. A high-speed press can do the job in half that time. How fast can both presses together do the job?

2. A payroll is prepared by two computers in 6 hours. The faster computer can do the job itself in 10 hours. In what time can the slower computer do the job?

3. One lathe can ream holes in a shipment of metal parts in 3 hours; a second also can do it in 3 hours, but a third needs 4 hours. How long will the job take if all three lathes are used?

4. One bulldozer clears land twice as fast as another. Together they clear a large tract in 1-1/2 hours. How long would the larger bulldozer take?

5. A swimming pool has two inlet pipes. One fills the pool in 3 hours, the other in 6 hours. The outlet pipe empties the pool in 4 hours. Once the outlet pipe was left open when the the pool was being filled. In how many hours was the pool full?

6. It takes Mr. Shea 8 hours to paint his barn. If he works one hour and then asks a painter to help him, they finish in 3 more hours. In what time can the painter do the whole job?

7. One machine labels 1200 cans in one hour and a second labels 900 cans in an hour. If the faster machine starts one hour before the slower, how long will it take to label 8200 cans?

8. A job can be done by 8 men in 3 hours, or by 15 boys in 5 hours. How long would it take 3 men and 25 boys together?

9. A man contracts to build a road in 72 days, a job requiring 60 men. The man hires 50 men who work for a while until he realizes that he must hire 30 more to finish on time. How many days do these 30 men work?

10. Together, a man and his two sons assemble an electric train in 12 minutes. The job would take the man alone 10 minutes less than it would take either son. How soon could both sons together set up the train?

ALGEBRA 1

MANUFACTURING CURRICULUM CLUSTER

WORK PROBLEMS

Solve:

1. A press can print one day's newspapers in 4 hours. A high-speed press can do the job in half that time. How fast can both presses together do the job?

2. A payroll is prepared by two computers in 6 hours. The faster computer can do the job itself in 10 hours. In what time can the slower computer do the job?

3. One lathe can ream holes in a shipment of metal parts in 3 hours; a second also can do it in 3 hours, but a third needs 4 hours. How long will the job take if all three lathes are used?

4. A job can be done by 8 men in 3 hours or by 15 boys in 5 hours. How long would it take 3 men and 25 boys together?

5. One machine labels 1200 cans in one hour and a second labels 900 cans in an hour. If the faster machine starts one hour before the slower, how long will it take to label 8,200 cans?

6. A water tank can be filled by one pipe in 3 hours and by a second pipe in 2 hours. How many hours will it take the two pipes together to fill the tank?

7. One pump fills a tank twice as fast as another. If together they fill the tank in 16 minutes, how long does the larger pump take?

8. A deck of punched cards can be read by one electronic header in 20 minutes. A second can read the same deck in 12 minutes. In how much time could both readers together process the cards?

9. One pipe can fill a tank in 5 hours. A second can fill it in 3 hours. How long will it take both pipes together to fill the tank?

10. An air conditioner lowers the temperature 10 degrees in 12 minutes. With a second air conditioner also working, this change takes 4 minutes. How long would the second device need to produce that change?

ALGEBRA 1 - MANUFACUTRING

CLUSTER RESOURCE MATERIALS

COMPOUND PROPORTION PROBLEMS

Causes - may be thought of as action on the part of; for example: the consumer, men, animals, time, distance, weight, goods bought or sold, etc.

Effects- may be thought of as the results of action, the thing produced or consumed, expense, money paid, etc.

Use the formula: two causes = two effects.

Solve the following:

1. If a printing press printed 675 pages of material in 15 minutes, how long would be required to print 2,700 pages?
2. If 18 men can build a wall 42 rods long in 16 days, how many men can build a wall 28 rods long in 8 days?
3. If it takes 4 days for 100 workmen to erect one story of a building, how many stories can 50 men erect in 64 days?
4. If 15 men can excavate 240 cubic feet in 4 days, how long will it take 50 men to excavate 1000 cubic feet?
5. If a man travels 120 miles in 3 days when the days are 12 hours long, how many days of 10 hours each will he require to travel 360 miles?
6. If 6 laborers dig a ditch 34 yards long in 10 days, how many yards can 20 laborers dig in 15 days?
7. If 15 men can build a wall 12 feet high, how many men will be required to build one 20 feet high?
8. If it requires 18 hours to saw 10,000 feet of lumber using a 20 horsepower engine, what horsepower will be required to saw the same amount in 10 hours?
9. A metal joint 16 feet long required 80 rivets. How many rivets are required for a joint 11 feet long?
10. If a mountain road rises 5 feet in every 40 feet of distance, how much will it rise in 100 feet of distance?

ALGEBRA 1

PUBLIC SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Evaluate Formula	I. Evaluate given formula	I. Algebraic and computational skills are required for placement in public service occupations.	I. Have an awareness of certain types of mathematical problems as found in Civil Service Exams related to public service jobs.	I. Textbook - *Modern Algebra*, Dolciani, Chapts. 1-2, 8, 14.
II. Direct & Indirect Measurement	II. Solve public service related problems using measurement formula. A. Approximation B. Measure by tool/formula		II. Identify the requirements of mathematical skills in public service occupations.	II. Review of arithmetic skills.
III. Simplification of Algebraic Expression	III. Simplify both members of an algebraic equation		III. Identify these occupations in the three main levels of public service employment: A. Federal B. State C. Local	III. Practice and drills.
IV. Solve Linear Equation	IV. Solve linear equations			IV. Introduction of variables to basic skills.
V. Introduction to Geometry & Trig.	V. Solve angular problems A. Complementary B. Supplementary			V. Application of skills with career related problems from text/supplemental materials.
VI. Application-Ratio, Proportion & Percent	VI. Solve equation using proportions and percents.			VI. Use of word problems related to occupational uses of Algebra.
				VII. Bulletin board materials -detail of all public service related jobs with Occupational Awareness mini-brief subject-oriented Occupational Packet for student reference.
				[illegible] Research secondary, college and/or technical school math course requirements for entry into a student selected occupation.
				IX. Source of reference materials: *Arco Civil Service Test Tutor for Public Service Jobs*.
				X. Guest speakers and field trips, cluster related vocations. (Supplements A-2, A-3 and A-5)

PUBLIC SERVICE RELATED MATH PROBLEMS

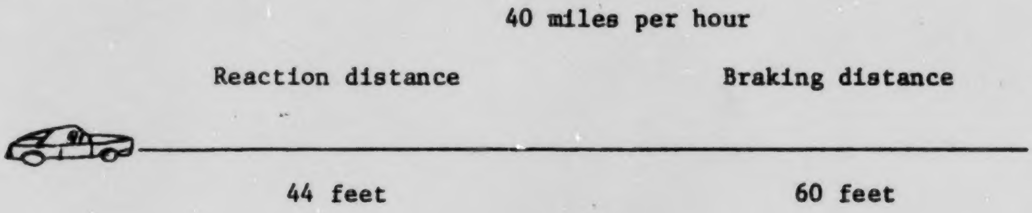
Police Officer

Many opportunities exist for persons who seek careers in law enforcement. The number of jobs available with law enforcement groups is expected to increase through the mid-1980's.

Most city police officers are assigned to patrol or traffic duty. However, there are also many specialized assignments including criminal investigation, chemical and microscopic analysis, firearms identification, and handwriting and fingerprint identification. Highway Patrol Officers provide services to motorists on the highways including help at accident scenes. Their main function is to enforce highway laws.

Both city and state police officers are trained to promote safe driving for motorists. From their training and experience they learn the effects of speed and driving conditions on the ability of a motorist to stop quickly. They must learn to use mathematical formulas such as $d = rt$ that relate driving speed and the distance needed to come to a complete stop in a certain length of time.

The drawing below shows the distance in feet required to stop a car traveling at 40 miles per hour under normal driving conditions. Reaction distance is the distance a vehicle travels during the time the driver is getting his or her foot on the brake pedal, the brakes are applied and until the vehicle stops.



A stopping distance of about 104 feet is required.

The distance that an automobile will travel after the application of good four wheel brakes is given by the formula:

$D=0.06s^2$, where D = the distance in feet and s = the speed in miles per hour (mph)

Find the distance D if the speed $s = 50$ mph
$= 60$ mph
$= 80$ mph

ALGEBRA 1

PUBLIC SERVICE RELATED MATH PROBLEMS

Mathematics and Police Work

You can determine the speed that a car was traveling by measuring the skid marks.

If all four tires skid and the car comes to a stop without hitting another object, you can use these formulas.

DRY, CONCRETE ROAD

$$\underset{\substack{\uparrow \\ \text{speed} \\ \text{(mph)}}}{s} = \sqrt{\underset{\substack{\nwarrow \\ \text{distance (ft)} \\ \text{car skidded}}}{24d}}$$

WET, CONCRETE ROAD

$$\underset{\substack{\uparrow \\ \text{speed} \\ \text{(mph)}}}{s} = \sqrt{\underset{\substack{\nwarrow \\ \text{distance (ft)} \\ \text{car skidded}}}{12d}}$$

EXAMPLE: A car skidded to a stop on a dry, concrete road. The skid marks were 48 feet long. How fast was the car traveling?

$$\begin{aligned} s &= \sqrt{24d} \\ &= \sqrt{24 \times 48} \\ &= \sqrt{24 \times 24 \times 2} \\ &= 24\sqrt{2} \\ &= 33.84 \text{ or } 34 \quad \text{(34 mph)} \end{aligned}$$

SOLVE THESE PROBLEMS.

1. A car skidded to a stop on a dry, concrete road. The skid marks were 120 feet long. How fast was the car traveling?

2. A car skidded to a stop on a wet, concrete road. It left skid marks for 96 feet. How fast was the car traveling?

ALGEBRA 1

HIGH SCHOOL MATH AND RELATED CAREERS

HIGH SCHOOL GRADUATE plus ON-THE-JOB TRAINING

(includes apprenticeship)

- Gas Station Attendant
- Pest Control Worker
- Tool and Die Maker
- Structural Worker
- Accounting Clerk
- Insurance Clerk
- Shipping Clerk
- Postal Clerk
- Lens Grinder
- Meat Cutter
- Stock Clerk
- Bank Teller
- Electrician
- Bricklayer
- Bill Clerk
- Millwright
- Bookkeeper
- Carpenter
- Machinist
- Cashier
- Plumber
- Welder

TECHNICAL, VOCATIONAL and COMMUNITY COLLEGE

(1-3 years beyond high school)

- Electronics Technician
- Inhalation Therapist
- Real Estate Salesman
- Machinery Repairman
- Automobile Mechanic
- Aircraft Mechanic
- X-Ray Technician
- Statistical Aide
- Dental Assistant
- Diesel Mechanic
- Lighting Expert
- Office Manager
- Hearing Tester
- Lab Technician
- EEG Technician
- Bank Examiner
- Tax Collector
- Forestry Aide
- Accoustician
- Contractor
- Surveyor
- Cook

RELATED HIGH SCHOOL SUBJECTS

- GEOMETRY
- GENERAL MATH
- BASIC ALGEBRA
- MATH IMPROVEMENT
- MATH
- TECHNICAL MATH
- ALGEBRA
- HONORS CALCULUS
- TRIGONOMETRY
- INTERMEDIATE ALGEBRA
- ADVANCED MATH
- ADVANCED ALGEBRA

COLLEGE GRADUATE or ABOVE

(4 or more years after high school)

- Banker
- Actuary
- Forester
- Librarian
- Economist
- Geologist
- Accountant
- Geographer
- Pharmacist
- Optometrist
- Statistician
- Meteorologist
- Psychometrist
- Home Economist
- Airplane Pilot
- Systems Analyst
- Chemical Engineer
- Aerospace Engineer
- Air Traffic Controler
- Food & Drug Inspector
- Auditor
- Chemist
- Navigator
- Dietician
- Architect
- Scientist
- Astronomer
- Biochemist
- Tax Expert
- Geophysicist
- Metallurgist
- Mathematician
- Oceanographer
- Microbiologist
- Civil Engineer
- Atomic Scientist
- Nuclear Technician
- Electrical Engineer
- Engineering Draftsman
- Agricultural Economist

ALGEBRA 1

PUBLIC SERVICE OCCUPATIONS

Data Processing Training

Many different occupations are related to the use of electronic computers including computer programmers, systems analysts, and computer operating personnel. This latter group includes console operators, keypunch operators, data typists, high-speed printer operators, card-to-tape operators, and tape-to-card operators. A college degree is important for persons who expect to be systems analysts and top-notch programmers. Computer operators usually need at least a high school education and must have on-the-job experience. About three-fourths of a million people are employed as systems analysts, programmers, or computer operating personnel.

High speed digital computers perform mathematical operations on numbers expressed in the Binary numeration system. The binary system of numeration only uses the digits 0 and 1. The base for numbers in binary form is 2. The expanded notation for numbers in decimal form shows the meaning of the binary system.

Decimal Form		Expanded Notation
20583	=	$2 \cdot 10^4 + 0 \cdot 10^3 + 5 \cdot 10^2 + 8 \cdot 10^1 + 3 \cdot 10^0$

Binary Form		Expanded Notation
100111_{two}	=	$1 \cdot 2^5 + 0 \cdot 2^4 + 0 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0$
	=	$32 + 0 + 0 + 4 + 2 + 1$
	=	39ten

Some computers use the octal (base 8) numeration system.

Octal digits: 1, 1, 2, 3, 4, 5, 6, 7

$$273\text{eight} = 2 \quad 8^2 + 7 \cdot 8 + 3 \cdot 8^0$$

$$= 128 + 56 + 3$$

$$= 187\text{ten}$$

ALGEBRA 1

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVES	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Evaluate Formula	I. Evaluate given formula.	I. Algebraic and computational skills are required for entry level placement in transportation jobs.	I. Use math concepts to solve career oriented problems.	I. Textbook-Modern Algebra, Dolciani, Chpts. 8, 9, 11, 14.
II. Direct & Indirect Measurement	II. Solve transportation related problems using distance formulas. A. Approximation B. Measure by tool/formula	II. Algebra is a requirement for college bound students interested in the field of transportation.	II. Identify the requirement of mathematical skills in transportation occupations, i.e., Algebra 1 is a prerequisite for pilot training.	II. Application of skills with career related problems from text/supplemental materials.
III. Simplification of Algebraic Expressions	III. Simplify algebraic expression within an equation.	III. Awareness that higher math is required for navigational problems, i.e., Algebra 1, Geometry, Algebra 2, Trigonometry, etc.	III. Identify the frequency of mathematical concepts of similar triangles and trigonometric functions in navigation.	III. Transportation occupations supplemental materials (Supplements B-59, B-60)
IV. Solve Linear Equations	IV. Solve linear equations.		IV. Identify the frequency of the use of indirect measurements in transportation occupations.	IV. Bulletin board materials -detail of all transportation related jobs with Occupational Awareness mini-brief subject-oriented Occupational Packet for student reference.
V. Simplification of Algebraic Fractions	V. Simplify algebraic fractions within an equation			V. Source of reference materials: A. American Practical Navigator, Nathaniel Bowditch B. Primer of Navigation, George W. Mixter.
VI. Solve Linear Simultaneous Equations	VI. Solve and find the solution set by: A. Graphing B. Three different methods 1. Addition or subtraction 2. Multiplication plus addition and subtraction 3. Substitution			VI. Guest speakers and field trips cluster related vocations. (Supplements A-2, A-3 and A-5)
VII. Introduction to Geometry & Trig. A. Degree measurements 1. Minutes & seconds B. Computation, lengths, and angles 1. Pythagorean Theorem 2. Define functions of trigonometry a. sine b. cosine c. tangent	VII. Students will be able to: A. Recognize and classify a triangle by its angles and its length. B. Find the missing parts of a right triangle, using the Pythagorean Theorem C. Compute by using the following: 1. Square root tables in book 2. Approximation D. Find sides, given triangles by using similar triangles. E. Find sides and angles of a given triangle by using trigonometric functions, making use of the tables.			

ALGEBRA 1

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
VIII. Working with the Metric System	VIII. Conversions within the metric system, i.e., meters to kilometers, etc.			
IX. Simplification of Radical Expression	IX. Simplify radical expressions A. Factoring the perfect square B. By rationalizing the denominator			
X. Application-Ratio, Proportion & Percent	X. Solve equations using proportions and percents.			

ALGEBRA 1

TRANSPORTATION RELATED MATH PROBLEMS

Rate & Time Distance Problems

1. A train leaves a station and travels at 45 miles an hour. Three hours later a second train leaves and travels at 75 miles an hour. When will it overtake the first train?

2. Two planes which are 1060 miles apart leave at the same time and fly toward each other, meeting in 4 hours. If their rates differ by 15 miles an hour, what is the rate of each plane?

3. At noon two express trains are 330 miles apart. They are heading toward each other on parallel tracks, one going 50 mph and the other at 60 mph. When will they pass?

4. A plane leaves Omaha at 8 o'clock, flying due east. Another plane leaves Omaha at 10 o'clock, flying due west. By 11 o'clock they are 1800 miles apart. If the rate of the second is 50% greater than that of the first, what are the two rates?

5. An airplane is 75 miles directly behind a ship sailing a straight course. The rate of the plane is 120 mph and that of the ship is 20 mph. How long will it take the plane to overtake the ship?

6. A pilot plans to use 2-1/2 hours supply of gasoline. How far can he fly from his base at the rate of 300 mph and return over the same route at the rate of 200 mph?

7. A boat can travel 15 miles downstream in the same time that it can travel 9 miles per hour in still water. If it can travel 15 miles downstream in the same time that it can travel 9 miles up the stream, what is the rate of the stream?

8. The rate of a passenger train is 20 mph more that the rate of a freight train. It takes the passenger train 1/2 as much time to travel 160 miles as it does the freight train. Find the rate of each train.

9. An airplane made a trip of 600 miles in 6 hours. During the first part of the trip, it flew 120 mph. It then ran into a storm which reduced the rate to 80 mph for the rest of the trip. Find the number of hours it flew at each rate.

10. Two planes start from the same point and fly in opposite directions, one at 60 miles per hour faster than the other. It shows they are 1500 miles apart. How fast is each plane flying?

ALGEBRA 1

TRANSPORTATION RELATED MATH PROBLEMS

1. Two trains started at the same time from the same station and traveled in opposite directions. One traveled at the rate of 50 mph and the other at the rate of 60 mph. In how many hours were they 660 miles apart?

2. At 8 a.m. two automobiles started from the same place. One traveled north at the rate of 35 mph, and the other traveled south at the rate of 40 mph. At what time were the automobiles 300 miles apart?

3. One plane departed from New York and at the same time another plane departed from Mexico City. They flew toward each other at rates of 650 mph and 550 mph. If New York and Mexico City are 3000 miles apart, in how many hours did the planes pass each other?

4. Two trains are 515 miles apart. At 10 a.m. they start traveling toward each other at average rates of 48 and 55 mph. At what time will they pass each other?

5. Saratoga and New York are 180 miles apart. A truck traveled from New York toward Saratoga at the rate of 44 mph. Another truck traveled from Saratoga toward New York at the rate of 36 mph. How many miles did each travel before they met?

6. Two trains started from the same station at the same time and traveled in opposite directions. After traveling 10 hours, they were 850 miles apart. The rate of the fast train exceeded the rate of the slow train by 5 mph. Find the rate of each train.

7. Two planes left at the same time from two airports which are 4500 miles apart and flew toward each other. In 5 hours, they passed each other. The rate of the fast plane was twice the rate of the slow plane. Find the rate of each plane.

8. At 7:00 a.m. two cars started from the same place, one traveling east and the other traveling west. At 10:30 a.m. they were 287 miles apart. If the rate of the fast car exceeded the rate of the slow car by 6 mph, find the rate of each car.

9. An airplane made a flight of 1600 miles in 5 hours. During the first 3 hours of the trip it had good weather. It then ran into bad weather, which decreased its rate by 75 mph for the rest of the flight. Find the rate on each part of the flight.

10. Two planes started at the same time from two airports which are 1550 miles apart and flew toward each other. One plane flew 330 mph, and the other flew 370 mph. In how many hours were the planes still 150 miles apart?

ALGEBRA 1

TRANSPORTATION RELATED MATH PROBLEMS

Indirect Measurement

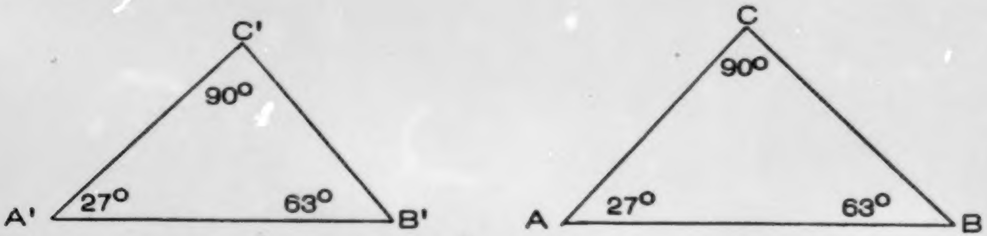
USE FORMULA $c^2 = a^2 + b^2$

1. How long is a path running diagonally across a rectangular lot 405 feet long and 216 feet wide?
2. Find the diagonal of a rectangle whose dimensions are 18 feet and 24 feet.
3. If the foot of a ladder is 14 feet from the wall, how high up on the wall does a 50 foot ladder reach?
4. Find the length of the diagonal of a square whose side measures 18 cm.
5. What is the distance from the pitcher's box to second base if the distance from the pitcher's box to home plate is 60 feet and the distance between bases is 90 feet?
6. In the installation of an antenna 16 feet high, how long must a wire be to reach from the top of the antenna to a point on the roof 12 feet from the foot of the antenna?
7. A boat left port, sailing 28 kilometers due west and 45 kilometers due south. How far away from the port was the boat?
8. Mr. Harris plans to brace his 4 ft. by 7 ft. garage door by nailing a board diagonally across. How long a board does he need to reach from corner to corner?
9. What distance did an airplane actually fly when traveling due east 312 miles from town X to town Y, if it drifted off its course in a straight line and landed at town Z, 91 miles due north of town Y?
10. How high is a kite if a girl holds the string 3 feet from the ground and lets out 200 feet of string? The distance from a point to the ground directly under the kite to where the girl stands is 56 feet.

ALGEBRA 1
TRANSPORTATION RELATED MATH PROBLEMS

Similar Triangles

Similar triangles - are two triangles that may have the same shape although they do not have the same size.



Written $\triangle ABC \sim \triangle A'B'C'$

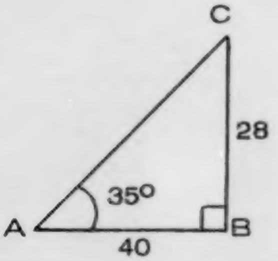
Properties of Triangles:

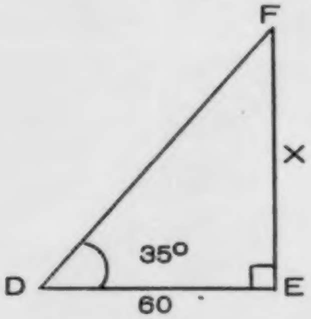
1. Two triangles are similar if three pairs of corresponding angles are equal.
2. Two triangles are similar if two pairs of corresponding acute angles are equal.
3. Two right triangles are similar if one pair of corresponding acute angles are equal.
4. If two triangles are similar, the ratio of any pair of corresponding sides are equal to the ratio of any other pair of corresponding sides.
5. Corresponding sides of similar triangles are in proportion:

For Example: $\frac{AB}{A'B'} = \frac{BC}{B'C'}$ OR $\frac{AB}{BC} = \frac{A'B'}{B'C'}$

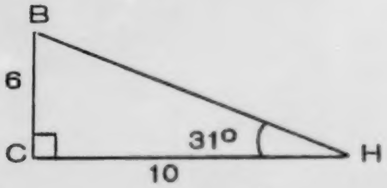
SIMILAR TRIANGLES - SOLVE FOR X =

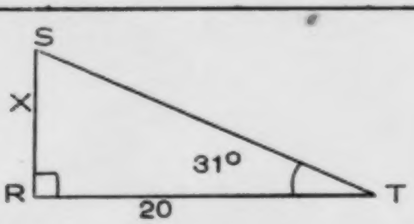
(1)





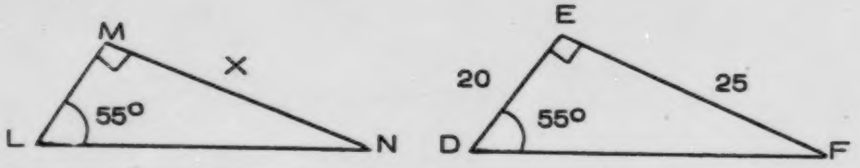
(2)



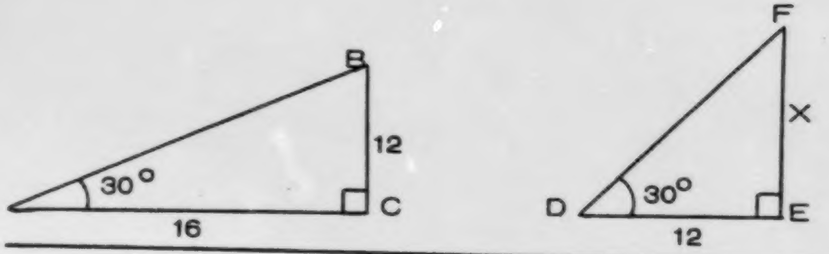


SIMILAR TR GLES - SOLVE FOR X

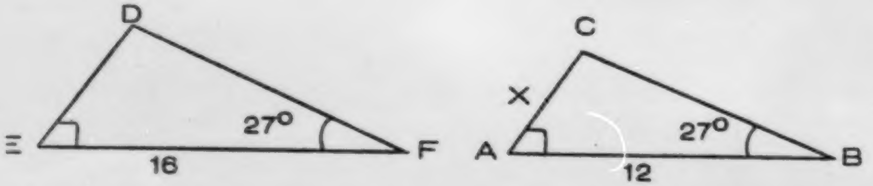
(3)


M
X
L
55°
N
E
20
25
D
55°
F

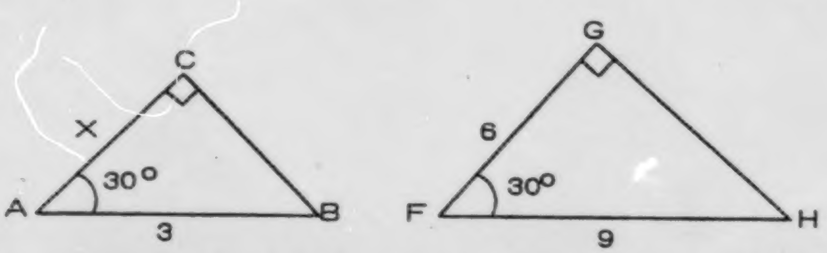
(4)


B
12
30°
C
16
F
X
D
30°
E
12

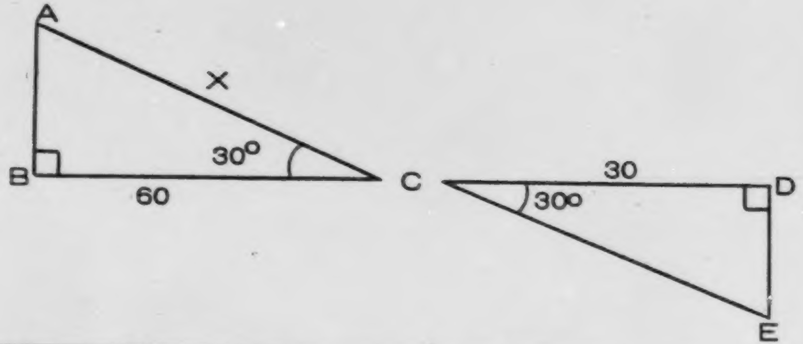
(5)


D
E
27°
F
16
C
X
A
27°
B
12

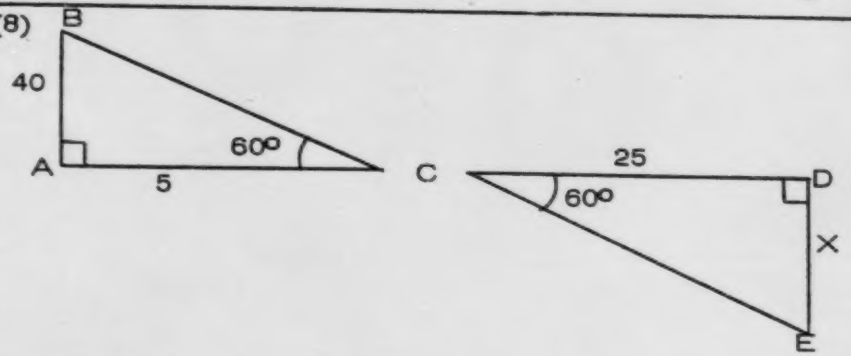
(6)


C
X
A
30°
B
3
G
6
F
30°
H
9

(7)

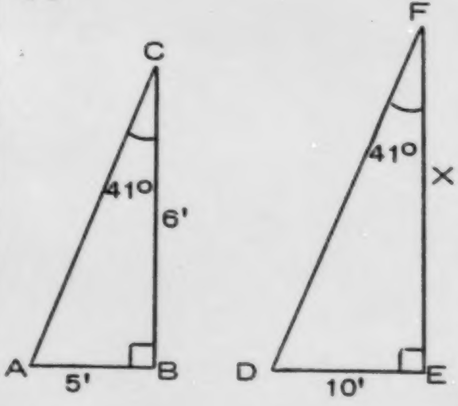

A
X
30°
B
60
C
C
30
30°
D
E

(8)

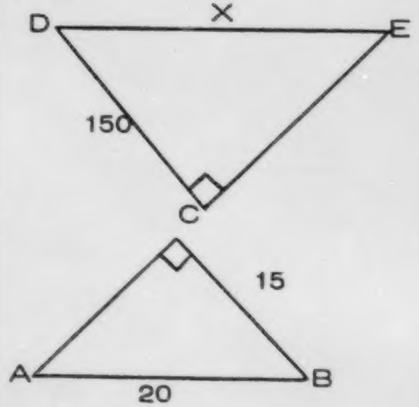

B
40
60°
A
5
C
C
25
60°
D
X
E

3-93

(9)

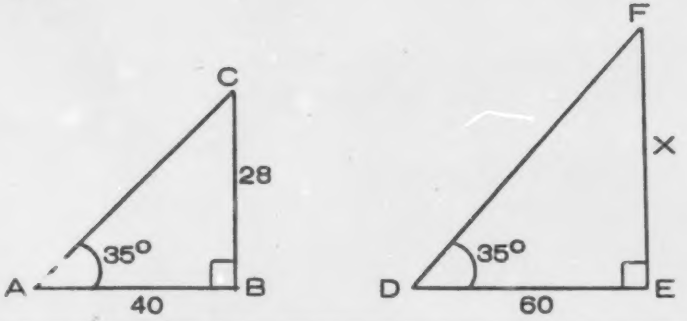

C
41°
6'
A
5'
B
F
41°
X
D
10'
E

(10)

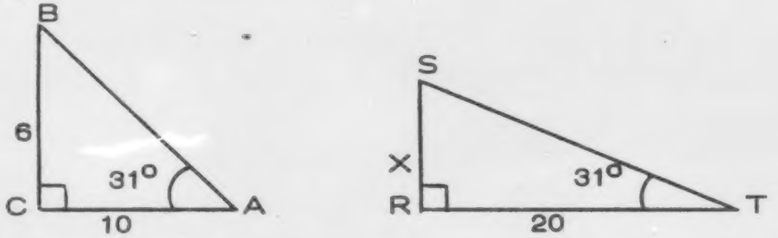

D
X
E
150
C
15
A
20
B

SIMILAR TRIANGLES - SOLVE FOR X

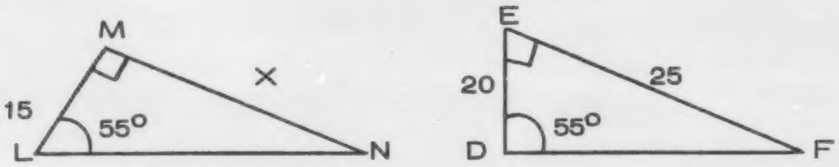
(1)


C
28
A
35°
40
B
F
X
D
35°
60
E

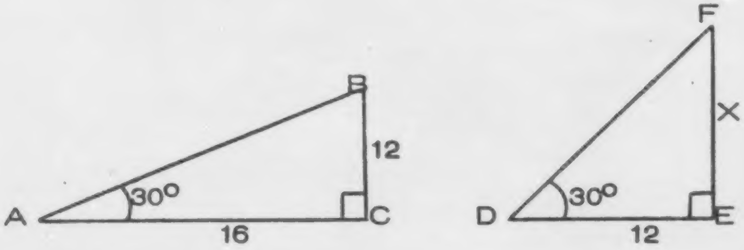
(2)


B
6
31°
C
10
A
S
X
31°
R
20
T

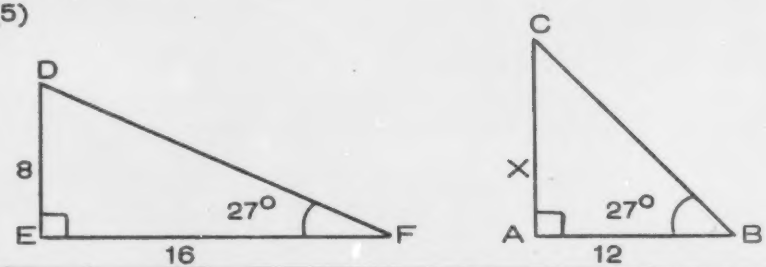
(3)


M
X
15
55°
L
N
E
20
25
55°
D
F

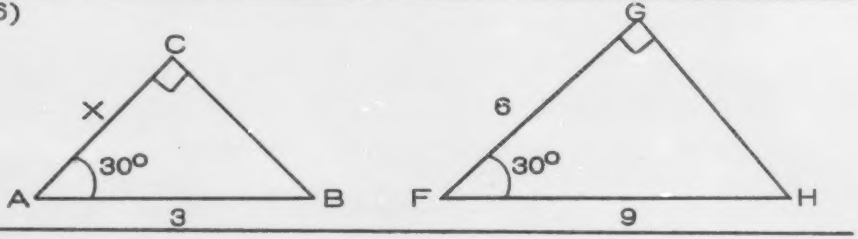
(4)


B
12
A
30°
16
C
F
X
D
30°
12
E

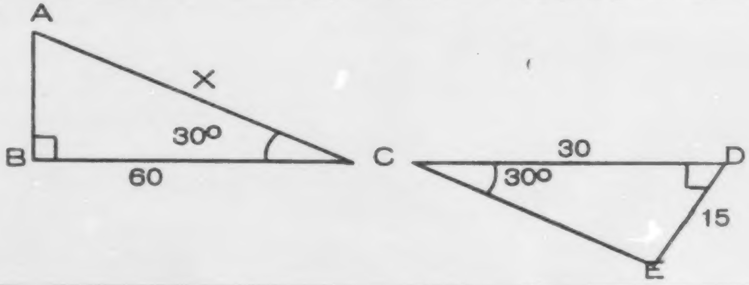
(5)


D
8
27°
E
16
F
C
X
27°
A
12
B

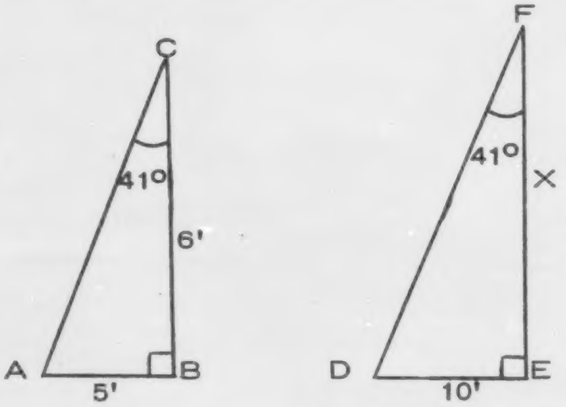
(6)


C
X
30°
A
3
B
G
6
30°
F
9
H

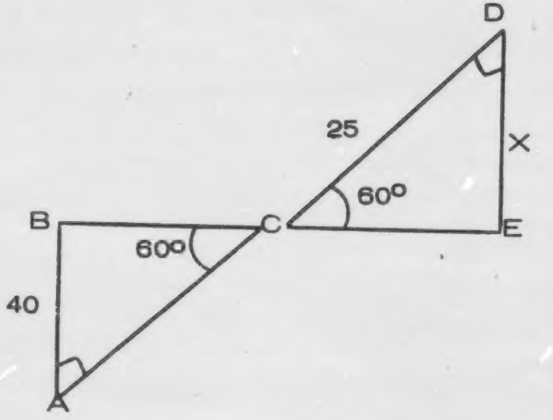
(7)


A
X
30°
B
60
C
30
D
30°
15
E

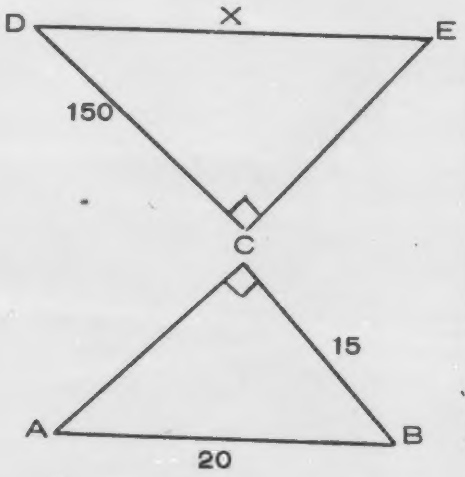
(8)


C
41°
6'
A
5'
B
F
41°
X
D
10'
E

(9)


D
25
X
60°
B
C
E
60°
40
A

(10)


X
D
E
150
C
C
15
A
B
20

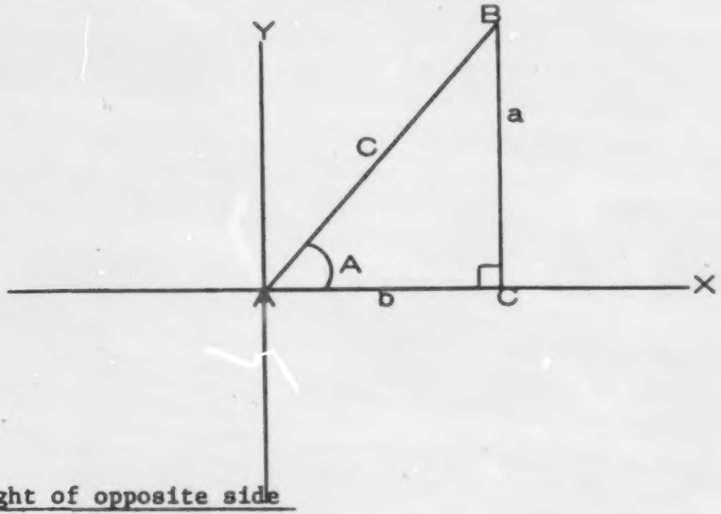
ALGEBRA 1
TRANSPORTATION RELATED MATH PROBLEMS

Solution of Right Triangles

1. A Rt. triangle contains two acute angles (less than 90°) and these sides, (the hypotenuse and two arms or legs).

2. Sides and angles of the triangle are called the parts of the triangle.

3. To sove a Rt. triangle shall mean to find all unknow parts.

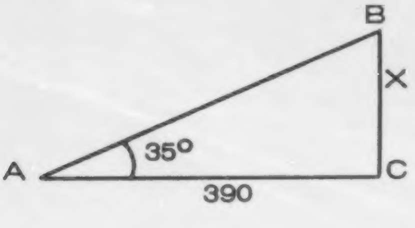


$$\text{Sin A} = \frac{a}{c} = \frac{\text{lenght of opposite side}}{\text{lenght of hypotenuse}}$$

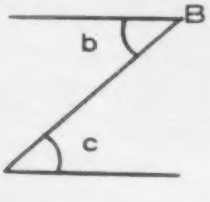
$$\text{Cos A} = \frac{b}{c} = \frac{\text{lenght of adjacent side}}{\text{lenght of hypotenuse}}$$

$$\text{Tan A} = \frac{a}{c} = \frac{\text{length of opposite side}}{\text{length of adjacent side}}$$

Angle of elevation is the angle between the horizontal line and the line of sight, measured by a transit.



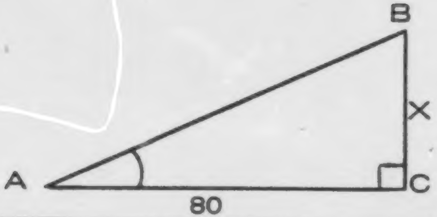
Angle of depression is the angle below the horizaontal, between the horizontal line and the line of sight.
The angle of depression and the angle of elevation are equal.



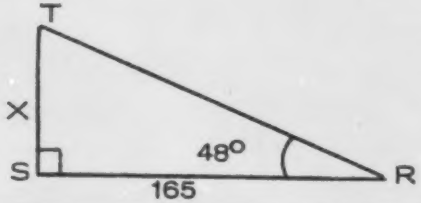
Trigonometry Problems

For each triangle find the value of X to the nearest whole number:

(1)

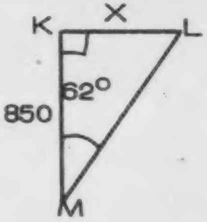


(2)

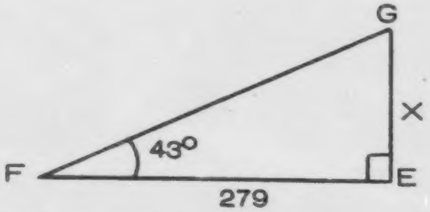


3-97

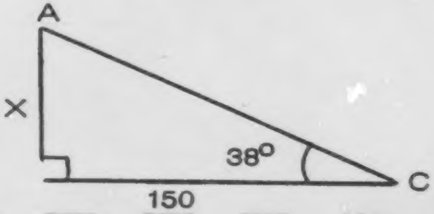
(3)



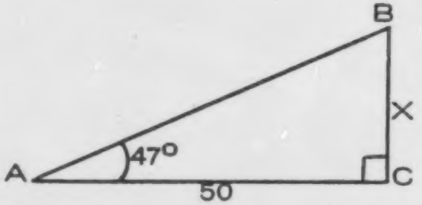
(4)



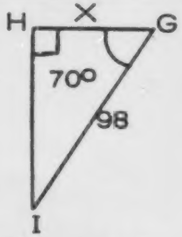
(5)



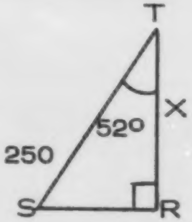
(6)



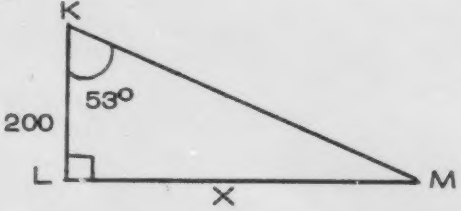
(7)



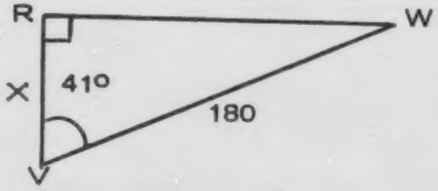
(8)



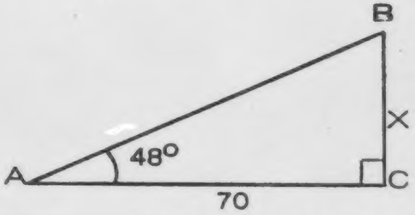
(9)



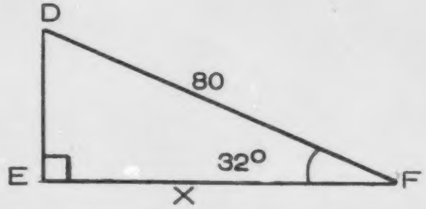
(10)



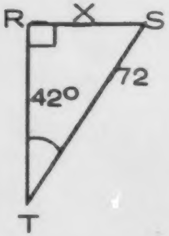
(11)



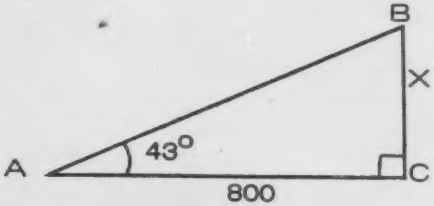
(12)



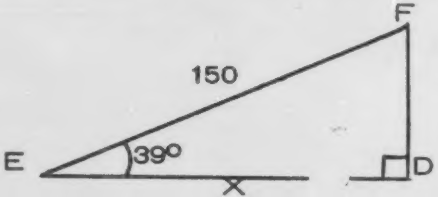
(13)



(14)



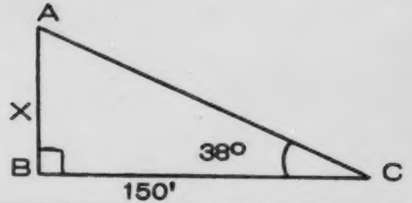
(15)



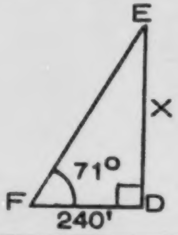
Trigonometry Problems

For each triangle find the value of X to the nearest whole number:

(1)

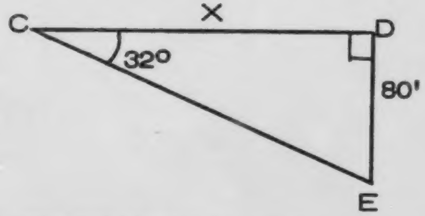


(2)

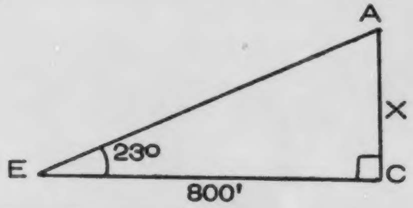


3-98

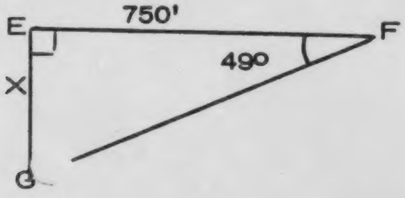
(3)



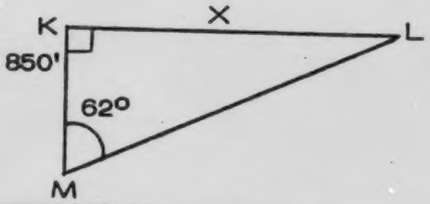
(4)



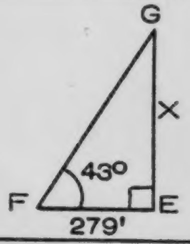
(5)



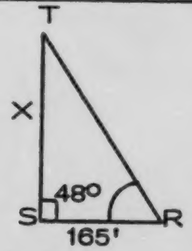
(6)



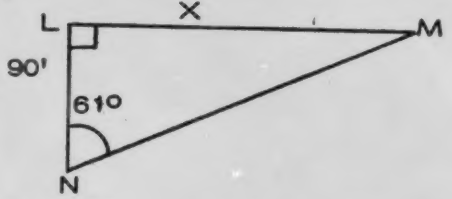
(7)



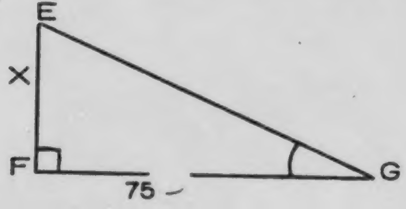
(8)



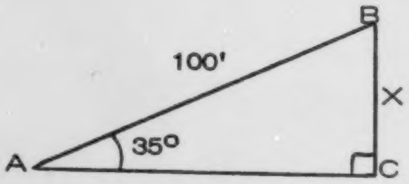
(9)



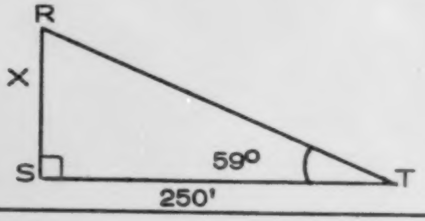
(10)



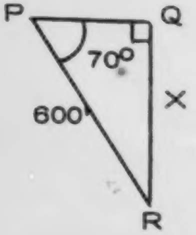
(11)



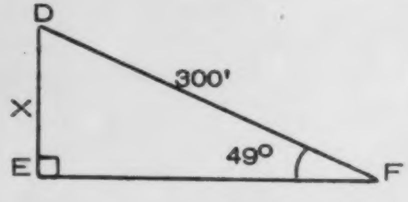
(12)



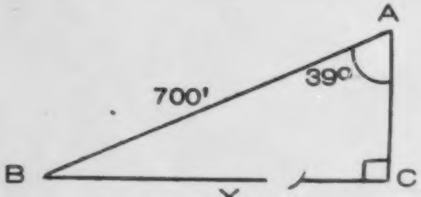
(13)



(14)

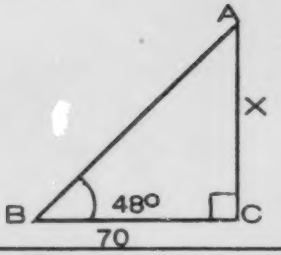


(15)

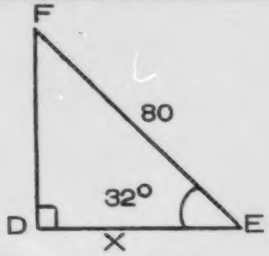


Find the value of X to the nearest whole number:

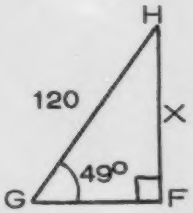
(1)



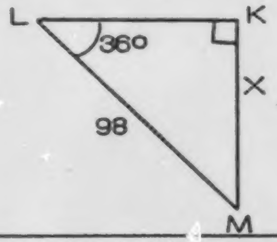
(2)



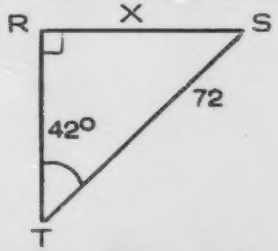
(3)



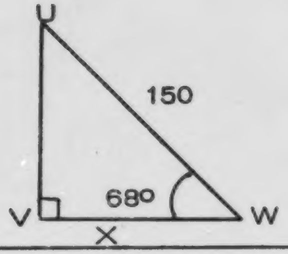
(4)



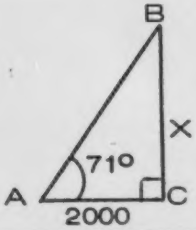
(5)



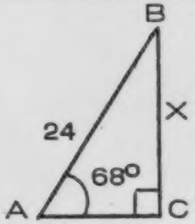
(6)



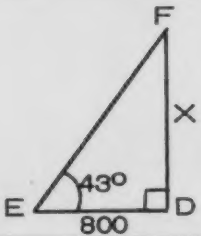
(7)


B
X
71°
A
C
2000

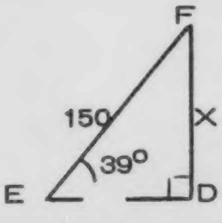
(8)



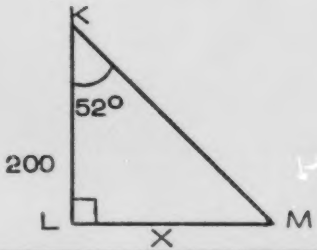
(9)



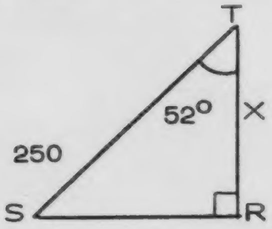
(10)



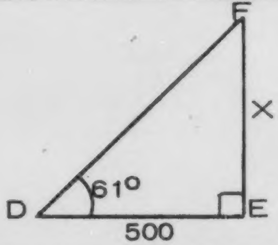
(11)



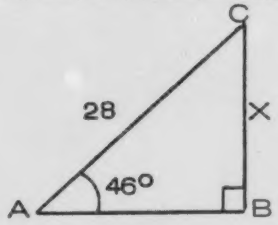
(12)



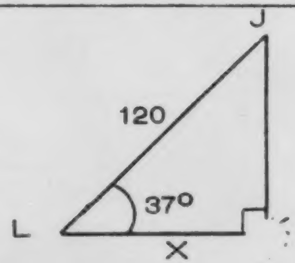
(13)



(14)



(15)



TRANSPORTATION RELATED MATH PROBLEMS

Use the trigonometric table to find the following:

(1) Tan 45°

(2) Tan 10°

(3) Tan 83°

(4) Sin 12°

(5) Sin 17°

(6) Sin 57°

(7) Cos 72°

(8) Cos 40°

(9) Cos 35°

(10) Tan 55°

(11) Sin 55°

(12) Cos 55°

(13) Cos 30°

(14) Sin 20°

(15) Tan 39°

Find these angles that have these sines:

(1) .438

(2) .515

(3) .656

(4) .891

(5) .017

Find the angles that have cosines of:

(1) .174

(2) .500

(3) .848

(4) .921

(5) .682

Use the tables to find angles that have tangents of:

(1) .105

(2) 3.732

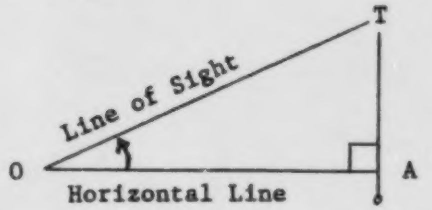
(3) .656

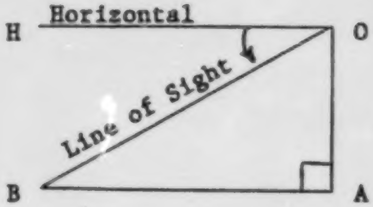
(4) 4.705

(5) 11.430

TRANSPORTATION RELATED MATH PROBLEMS

Angle of elevation--the angle determined by the horizontal line and the line of sight. $\angle AOT$.





Angle of depression--the angle determined by the horizontal line and the line of sight. $\angle HOB$

1. From the top of a lighthouse 160 feet high, the angle of depression of a boat at sea is 24°. Find to the nearest foot the distance from the boat to the foot of the lighthouse, the foot being at sea level.

2. At a point on the ground 250 feet from the base of a tower, the angle of elevation of its top is 32°. Find to the nearest foot the height of the tower.

3. From an airplane which is flying at an altitude of 3000 feet, the angle of depression of an airport ground signal is 27°. Find to the nearest hundred feet the distance between the airport and the airport signal.

4. An airplane climbs at an angle of 11° with the ground. Find to the nearest hundred feet the distance it has traveled when it has attained an altitude of 400 feet.

5. After takeoff, a plane flies in a straight line for a distance of 4000 feet in order to gain an altitude of 800 feet. Find to the nearest degree the angle which the rising plane makes with the ground.

6. A lighthouse built at sea level is 150 feet high. From its top the angle of depression of a buoy is 25 degrees. How far is the buoy from the foot of the lighthouse?

7. An airplane flies 2500 feet at a constant angle of 16° with the horizontal. Find to the nearest foot the ground distance covered.

8. An observer in a balloon which is 2000 feet above an airport finds that the angle of depression of a steamer out at sea is 21°. Find to the nearest hundred feet the distance between the balloon and the steamer.

9. A boy flying a kite lets out 150 feet of string that makes an angle of 64° with the ground. Assuming that the string is straight, find to the nearest foot how high the kite is above the ground.

10. From the top of a cliff 450 feet above sea level, the angle of depression of a boat out at sea is 24°. Find the nearest foot the distance through the air from the top of the cliff to the boat.

TRANSPORTATION RELATED MATH PROBLEMS

Navigational Materials

Methods of Fixing Positions:

A navigator in sight of objects whose positions are shown upon the chart may locate his vessel by any of the following methods:

1. Cross bearing of two known objects.
2. The bearing and distance of a known object.
3. The bearing of a known object and the angle between two known objects.
4. The bearing of a known object separated by an interval of time, with the run during that interval.
5. Sextant angles between three known objects.

A sextant is simply a device which enables an observer to measure the angle in degrees, minutes and seconds between two objects.

Compass Errors:

1. Variation--arises from the fact that the Magnetic North Pole is located a thousand miles from the True North Pole.
2. Deviation--is caused by metals in the boat which influence the compass to one side or another of north.

Memory-Aide

From true to compass
With AWE* you SEE**

From compass to true
Its SW-AE

*Add Westerly Error; **Subtract Easterly Error

Altitudes and Horizons:

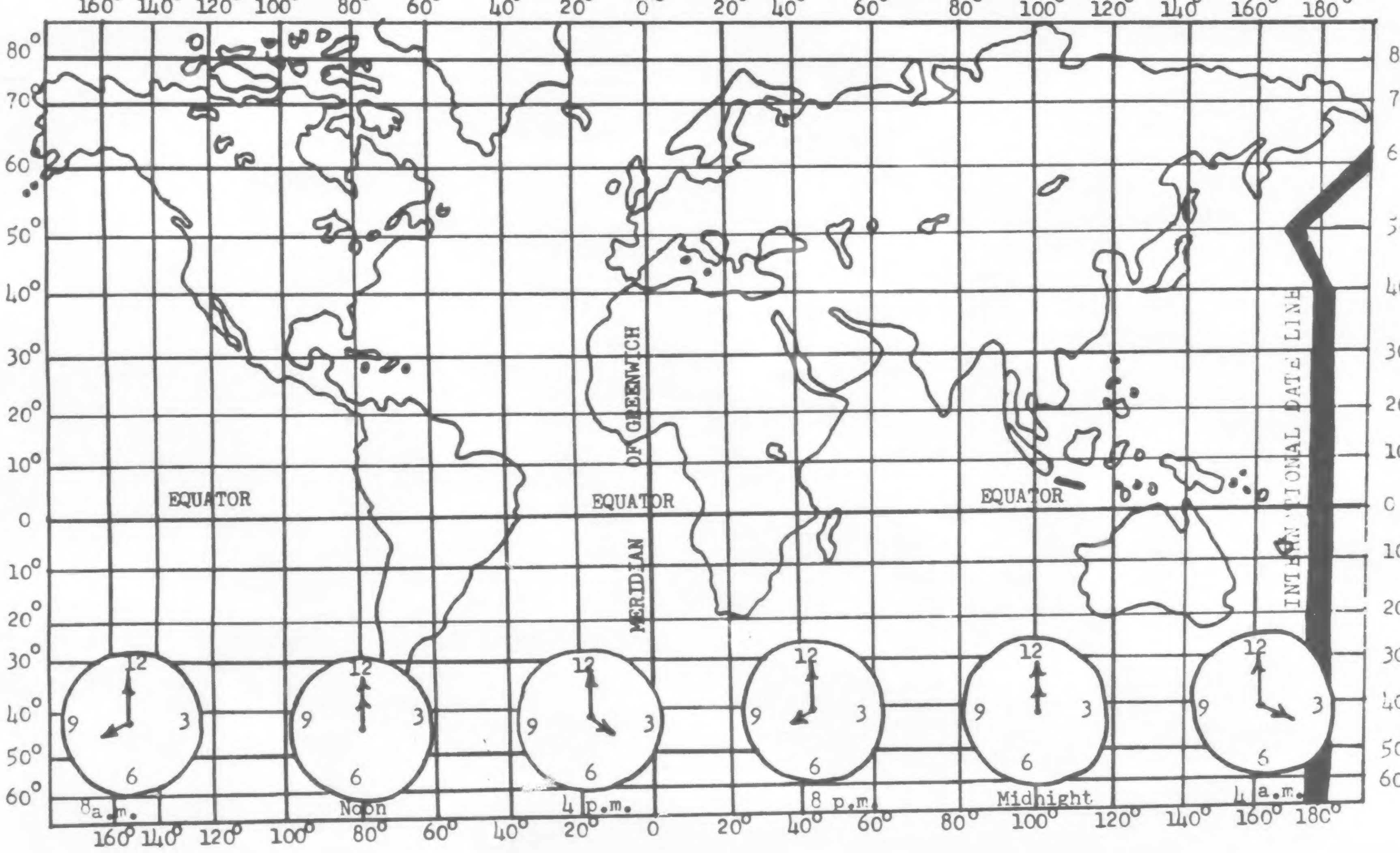
The altitude of a celestial body is its angular distance measured vertically above the horizon.

The visible horizon--sometimes called the sea horizon or the natural horizon, is where the sky appears to intersect the sea. In clear weather it is a circle around the ship, the angular level of which depends on the height of the observer's eye above the water.

The celestial horizon is where a plane through the center of the earth, at right angles to a line from the earth's center through the ship to its zenith intersects the celestial sphere.

The sextant altitude is the altitude of a body as read from the sextant without correction of any kind.

The true altitude, sometimes called the corrected altitude, is the altitude of the center of the observed body above the celestial horizon, as if measured by an observer at the earth's center.


160° 140° 120° 100° 80° 60° 40° 20° 0° 20° 40° 60° 80° 100° 120° 140° 160° 180°
80° 70° 60° 50° 40° 30° 20° 10° 0 10° 20° 30° 40° 50° 60°
EQUATOR
EQUATOR
EQUATOR
MERIDIAN OF GREENWICH
INTERNATIONAL DATE LINE
8 a.m.
Noon
4 p.m.
8 p.m.
Midnight
4 a.m.

ALGEBRA 1

TRANSPORTATION RELATED MATH PROBLEMS

Longitude and Time

The earth rotates about its axis from the west to the east, making one complete revolution each day. It takes the earth 24 hours to pass through 360° of longitude or 1 hour for 15° of longitude 4 minutes for each degree of longitude.

Longitude is measured in degrees (") and minutes(') of angular measure. Arcs representing time, however, are often expressed in units of time as a measure of the arc.

Useful equivalents:

360° = 24 hours
15° = 1 hour
1° = 4 minutes
15' = 1 minute
1' = 4 seconds

Angles and Arcs

1 circle = 360 degrees (°)
1 degree = 60 minutes (')
1 minute = 60 seconds (")

Longitude is sometimes expressed in units of time. Both world and longitude are calculated from the meridian of Greenwich, England.

To change units measuring longitude to units of time, divide the units longitude by 15'. To change units of time to units of longitude, multiply the units of time by 15. Simplify the answer when necessary.

A. Express the following arcs of longitude as units of time:

1. 30°
2. 6°
3. 45'
4. 20'
5. 18°10'
6. 30"
7. 73°18'
8. 90°45'30"
9 135°
10. 15'45"

B. Express the following units of time as arcs of longitude:

1. 3 hr.
2. 19 hrs.
3. 30 min.
4. 1 hr. 30 min.
5. 11 hrs. 20 min.
6. 30 sec.
7. 45 min. 15 sec.
8. 4 hrs. 30 min. 20 sec.
9. 48 min.
10. 8 hrs. 15 min.

TRANSPORTATION RELATED MATH PROBLEMS

Magnetic Compass

The direction which an airplane flies over the earth's surface is called the course of the airplane and is expressed as an angle. When it is measured clockwise from the true north (North Pole), it is the true course. Since the compass needle always points to magnetic north, the pilot must correct his true course reading. This correction is called magnetic variation or variation and the corrected course reading is called the magnetic course. Thus the pilot must correct the magnetic course reading. This correction is called deviation and the corrected course reading is called the compass course.

1. To find magnetic course from true course, we add west variation but subtract east variation. To find compass course from magnetic course, we add west deviation but subtract east deviation.

2. To find magnetic course from compass course, subtract west deviation but add east deviation. To find true course from magnetic course, subtract west variation but add east variation.

Exercises

Find the Magnetic Course:

True Course	Variation
(1) 268°	9°w
(2) 95°	4°e
(3) 157°	0°

Find the True Course:

Magnetic Course	Variation
(4) 67°	2°w
(5) 301°	10°e
(6) 194°	0°

Find the Compass Course:

Magnetic Course	Deviation
(7) 172°	5°w
(8) 53°	4°e
(9) 298°	0°

Find the Magnetic Course:

Compass Course	Deviation
(10) 42°	6°w
(11) 133°	1°e
(12) 201°	0°

(13) What compass course should a pilot steer if the true course is 89°, variation is 4°e, and deviation is 7°w?

(14) What is the true course if the compass course is 330°, variation is 5°w, and deviation is 2°w?

(15) A pilot is steering a course of 206°. If the variation is 9°e and the deviation is 5°e, what is his true course?

ALGEBRA 1

TRANSPORTATION RELATED MATH PROBLEMS

Map Reading Problems

1. Locate on the map the following points:

   a. 40° N, 60° W   b. 0°, 140° W   c. 30° S, 80° E   d. 25° S, 90° W

2. Locate on the map the position (approximately) of each of the following cities:

   a. New Orleans 30° N, 90° W
   b. Helsinki 60° N, 25° E
   c. Philadelphia 40° N, 75° W
   d. Melbourne 38° S, 145° E
   e. Colon, Panama 10° N, 80° W
   f. Buenos Aires 35° S, 58° W

3. Find the difference in the following latitudes:

   a. 37° N and 22° N
   a. 37° N and 22° N
   b. 13° S and 51° S
   c. 24° N and 17° S
   d. 56°18' N and 19° 45' N

4. Find the difference in latitudes of the following cities:

   a. Los Angeles 34° N
   Rio de Janeiro 23° S

   b. Cape Horn 56°
   Cape Cod 42° N

   c. Portland, Me., 43°40' N
   Portland, Ore., 45°31' N

5. Find the difference in the following longitudes:

   a. 29° W and 107° W
   b. 18° E and 93° E
   c. 25° W and 82° E
   d. 5°27' E and 73°54' W

6. Find the difference in longitudes of the following cities:

   a. Savannah 81° W
   Seattle 122° W

   b. Honolulu 158° W
   Geneva 6° E

   c. Sydney 151° E
   Rangoon 96° E

7. Find how far apart in nautical miles points A and B are if:

	Location of Point A	Location of Point B
a.	35° N, 148° W	21° N, 148° W
b.	46°30' N, 75°45' W	12°15' S, 75°45' W

WORLD HISTORY

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course World History

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
The Beginnings								X						X	
Classical Civilization						X	X								
The Middle Ages							X				X				
The Renaissance & Reformation			X												
Age of Exploration															X
Age of Revolution											X				X
Technology and Science After the Industrial Revolution		X							X	X					

COURSE RELATIONSHIP TO THE GOALS

FOR CAREER EDUCATION IN CALIFORNIA

Course WORLD HISTORY

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.		X	X			X	X	X	X	X	X			X	X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.											X			X	
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.															
4. Recognize that educational experiences are a part of total career development and preparation.										X					
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.		X	X			X	X	X	X	X	X			X	X
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.															
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.		X	X			X	X	X	X	X	X			X	X
8. Gain career orientation to increase exposure to the options available in the world of work.		X	X			X	X	X	X	X	X			X	X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.		X	X			X	X	X	X	X	X			X	X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.															

WORLD HISTORY

OVERVIEW

This series of units represents one method of integrating career information into the regular World History curriculum. Its purpose is two-fold: 1. To help students relate world history to the world of work, and 2. To help along a realistic process of career choices. To do this, two emphases were made. We tried to place each career unit at a strategic place in the course, hoping that the student would see that economic factors which determined his career choices emerged from the flow of history. In addition, we tried to help the student become familiar with the realities of work by encouraging him to research specific job description.

Though all of the units are short and were not planned to require more than two days to present, it is probable that not all of them could be included in one year of World History. It is suggested, therefore, that the teacher may want to reduce or exclude such units as he/she feels justified in order to arrive at an appropriate mixture of academic and career subject matter.

WORLD HISTORY

BUSINESS/OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
Technology and Science After the Industrial Revolution	1. Define technology 2. Explain the relationship between science and technology 3. List three major technological advances of the 20th century 4. Show the relationship between technological advances and industrial growth 5. Define the term corporation and give two examples 6. Describe the change of America from rural to urban living.	Business/Office Occupations	1. Identify four major areas of career opportunities in the business world. 2. List pertinent job characteristics from one specific job title in each of the four major areas.	1. The point in the curriculum at which corporations are defined and discussed would be an appropriate place to introduce the Business/Office cluster. (Supplement B-5) 2. Using Supplement B-6, let the class go to the career lab and compile job description information for a job title (Supp. A-5) from each of four of the major areas of the outline. 3. In the event of the use of a speaker, it is suggested that the use of Supplement A-2 would be helpful.

WORLD HISTORY

COMMUNICATION & MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
The Renaissance, Reformation	1. Define Humanism and describe it as a new force for historical change in Western Civilization	Fine Arts & Humanities represented by the field of journalism	1. Define journalism and recognize its contents	1. At the point in the regular curriculum where the printing press becomes a point of discussion, also introduce journalism. Give the students a definition of journalism and distribute Supplement B-11 and discuss it.
	2. Describe three revolutionary changes accompanying the Renaissance		2. Define freedom of the press and discuss its importance in a democratic society	2. Distribute the Outline of the History of Journalism and briefly review its beginning and development (Supplement #1)
	3. Show how the power and influence of the Roman Catholic Church declined with the Reformation		3. Identify the three media of journalism	3. At Roman Numeral III of the outline (Supplement #1), use Supplement #2 as a suggested discussion format.
	4. List three new churches which emerged from the Reformation			4. If a speaker is desired, the "Independent Press Telegram" of Long Beach has a Speakers Bureau (Supplements A-2 and A-3.
	5. Show the relationship of the printing press to the Renaissance and the Reformation			5. Administer the suggested quiz (Supplemement #3) or some similar instrument

Supplement #1

THE HISTORY OF JOURNALISM

I. Newspapers
  A. Early history
    1. The Acta Diurna in the Roman Empire which were public announcements
    2. The Tching-pao or News of the Palace in China
    3. The printing press made great changes
      a. The first printed newsheet appeared in Nurnberg, Germany, in 1457
      b. Broadsides were news dealing with single topics
        (1) The results of Columbus' expedition in 1493
        (2) The British victory over the Spanish Armada in 1588
        (3) 800 are still in existence - all printed before 1610
    4. In 16th century England news writers were, at first, retained by great nobles who required special intelligence
      a. A general demand for news arose
      b. Nathaniel Butler published "The Weekly News from Italy, Germany, etc." in 1622
      c. By 1660 there were more then 20 English newspapers in the form of gazzettes, courants, and newsbooks
    5. On the Continent there was the weekly "Frankfurter Journal" founded by Egenolf Emmel in 1615 followed by many others

II. Magazines
  A. The first was probably Mercurius Gallobelgicus issued in Cologne, Germany in 1594
  B. In the 17th century scholarly journals were printed dealing with various subjects
  C. News comment
    1. Most of the commentary on the news was concerned with political developments
    2. Many great names in literature made their reputation this way
      a. Daniel Defoe, 1660-1731
      b. Jonathan Swift, 1667-1745
      c. Joseph Addison, 1672-1719
      d. Samuel Johnson, 1709-1784
    3. News commentaries began to be published in magazine form by 1704
      a. The weekly Review by Defoe
      b. The Examiner by Swift in 1710

III. Freedom of the Press
  A. Political commentary brought the opposition of government
    1. In 1643 the English Parliament established press censorship
    2. In America newspaper publishers were jailed in 1690 and 1721 for opposing government policy
  B. Americans wanted freedom of the press
    1. Peter Zenger won a jury trial in 1735 and was acquitted
    2. Opposition to censorship by the government in the 1700's overthrew the Federalist Party
  C. Liberating influences were at work in Europe also about the same time

IV. Modern Journalism
    A. Mass demand and improved technology greatly increased the number of papers
    B. Papers began to publish news per se rather than be a reflection of political papers
    C. Great editors began to influence public opinion
        1. England
            a. John Thaddeus Delane, 1817-1879
            b. Peter Borthwick, 1804-1852
        2. United States
            a. Horace Greeley, 1811-1872
            b. William Cullen Bryant, 1794-1878
            c. Charles A. Dana, 1819-1897
    D. The dissemination of news became "big business" by the last of the 1800's
    E. Two journalistic trends appeared
        1. One trend was serious, responsible newspapers such as the "New York Times" and the "London Times"
        2. A second trend is known as "yellow journalism" which depends on scandal and sensationalism for sales

V. Radio and television have added new aspects to journalism
    A. By reaching huge audiences it has helped to shape historical events
    B. Both can report an event while in progress and help mould public opinion
    C. Government regulation is necessary because the public has a vested interest in the airwaves

Supplement #2

FREEDOM OF THE PRESS

Discussion

Say, "Freedom of the press has a special role in a democratic society."

Ask, "What is this role or function?" Answers will be "To print the truth," "To print the news," etc.

Discussion should proceed to a demonstration of the protection to the public from abuse by political leaders provided by the freedom to print. It should further point out the value to the voting public of the freedom to discuss in print all the different aspects of a subject on which the public is asked to make a decision.

Supplement #3

QUIZ

Numbers 1 - 12 = 2 points each
Number 13 = 6 points

1. Newspapers were printed on a weekly schedule as far back as the Roman Empire.

2. Journalism includes newspapers, magazines, radio and television.

3. Fiction and biographies are not considered journalism.

4. One may usually find an editorial somewhere on the front page of the newspaper.

5. Journalism is hard work but is usually well paid.

6. To find the opinion of the newspaper one must talk to the Chief Editor.

7. The publication of news items can be traced to the Roman Empire.

8. Most early news publication before 1600 was concerned with political developments.

9. For an analysis or interpretation of news reporting one should read the editorial page.

10. Broadsides in early news publication usually dealt with a single subject.

11. Serious journalism may be identified because its news is varied and objective.

12. Yellow journalism emphasizes the scandalous and sensational side of the news.

13. List the two functions of a free press in a democratic society.

Supplement #3

JOURNALISM QUIZ

KEY

1 - 0

2 - +

3 - +

4 - 0

5 - 0

6 - 0

7 - +

8 - +

9 - +

10 - +

11 - +

12 - +

13 A. To inform and educate the public
B. To protect the public from abuse of power by political leaders

WORLD HISTORY

ENVIRONMENTAL CONTROL CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
Classical Civilization	1. Describe the qualities of character which propelled the Romans to greatness. 2. Describe the process of Rome's change from a republic to an empire with an emperor 3. Describe the Pax Romans 4. Identify two causes for the decline of the Roman Empire 5. Write a paragraph explaining the founding of the Christian religion	The United States Office of Education occupational cluster "Environmental Control"	1. See that even ancient Rome had environmental control problems 2. Perceive that the environmental cluster represents a new industry 3. List the four major divisions of the environmental cluster 4. Report on three jobs from the environmental cluster	1. A discussion of daily life in ancient Rome can provide a springboard to the introduction of the Environmental Control cluster (Supp. #1) 2. Using Supplement B-15, begin a discussion of the different aspects of the environment related cluster including the idea that it has appeared in response to recent concern over pesticides, pollution, damage to natural resources, etc. 3. From the list of jobs (Supp. B-16, students may choose three titles on which to report on Supplement A-5.

Supplement #1

WORLD HISTORY

ENVIRONMENTAL CONTROL

Ancient Rome, at its height, was able to provide 300 gallons of water per day to each inhabitant. To accomplish this required vast building projects to bring the water from its source to Rome. It required the Romans to acquire the sources and to provide for adequate storage and disposal techniques.

Waste disposal also was a problem confronting the Romans. In the 19th century, archeologists discovered a number of large pits near the city of Rome which were used as a means of disposing of refuse discarded by the Romans.

These are the kinds of problems with which the modern world is struggling. At the point in the study of Classical Civilization where it is appropriate to recount these facts, one may make a comparison between the modern and ancient worlds and launch into a discussion of the Environmental Control cluster.

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
Classical Civilization	1. Describe ancient Greece as the source of Western democracy	The United States Office of Education cluster "Fine Arts and Humanities"	1. Perceive the field of art as having career opportunities far beyond painting, sculpturing or crafts	1. Greek developments in the field of art is an appropriate place to introduce art as a career opportunity. Using Supplement B-2, introduce the U.S.O.E. and its taxonomy of occupations.
	2. Write a paragraph contrasting Athenian democracy with and to Spartan totalitarianism		2. Perceive that art plays a major role in the business world	2. Using Supplement B-17, point out that the first four divisions are art activities per se and gives an indication of the major role art plays in the business world.
	3. Describe two ways in which Greek art set the standards for art in the west		3. List and describe three jobs in the field of art	3. Two days before this unit inform students that they are to compile a list of at least five examples of the use of art one may see in the business community of his neighborhood. (Perhaps as a regular assignment for a grade or for extra assignment.) See Supp. A-7.
	4. Describe three ways in which ancient Greece thought influenced Western history			4. Using the career list information and Supplement A, students may get familiar with three jobs in the art world. The job title list should be helpful. (Supp. B-20).

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES AND RESOURCES
	Students will be able to:		Students will be able to:	
The Middle Ages	1. Describe the relationship of the early Roman Catholic church to the re-emergence of political authority in the West 2. Recognize the kingdom of the Franks as the beginning of a new Western Civilization 3. Describe the interworking relationships of politics, religion, and economics in the system of feudalism, church, and manorialism	The United States Office of Education occupational cluster of Fine Arts & Humanities - Religion and Theology	1. Perceive that religion offers certain career opportunities 2. Name at least two ways that careers in the religious field differ fundamentally from secular occupations: 1) Deals with spiritual needs of people 2) Admission is by ordination 3. Describe two jobs associated with organized religion	1. The study of monasticism during the early Middle Ages provides a convenient springboard for a discussion of religious occupations. Using Supp. B-17, let the students see the relative location of Religion and Theology within the USOE cluster arrangement. 2. Using the introduction to Supp. B-18, point out two ways that religious occuptions are fundamentally different from secular occupations. Their belief in God and the necessity of ordination. 3. Using Supp. B-18 and Career Lab information, students may choose two occupations and report on Supp. A-5.

WORLD HISTORY

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
The Beginnings	1. Define civilization in a historical sense	Health Occupations	1. Recognize the differences between the major fields of the health industry.	1. One of the contributions to Western Civilizations of ancient Egypt is medicine. That would be an appropriate place to introduce the health cluster. See Supplement B-24.
	2. Locate on a map and discuss the four early centers of civilization		2. List two jobs recognized as not in existence three years ago.	2. Center discussion around the outline of the history of medicine (Supp. #1) emphasizing the rapid change and diversification of recent developments.
	3. Describe the role of Egypt and the Fertile Crescent as the starting points of Western Civilization		3. Give job descriptions for three occupations associated with the health industry.	3. Assign the class to research three job titles from the health cluster using Supplements B-26 and A-5. The career lab should be useful at this point.
	4. List four major contributions of early peoples to Western Civilization: a. Government b. Law c. Writing d. Mathematics			4. If a speaker is used, a suggested format for him is Supplements A-2 and A-3.

Supplement #1

THE HISTORY OF MEDICINE

A. Primitive Medicine
   1. 12,000 - 4,000 B.C.
   2. Minor diseases treated with herbs, massage, poultices, and dieting
   3. Major diseases and disabilities such as smallpox, compound fractures, and psychoses were resolved by killing the patient or calling in a healer
      a. A witch doctor or medicine man might try to exorcise by spells
      b. Believed that disease caused by evil spirits, broken taboos, or an offended god
   4. Mesopotamia
      a. Healers were priests
      b. Diagnoses determined by inspecting the livers of sacrificed animals
      c. Priests used incantations and animal sacrifices to affect healing
      d. Imhotep
   5. Egypt
      a. Disease was possession by devils
      b. Had detailed written descriptions of how to recognize and treat sickness and wounds
      c. Foremost physicians for 2500 years
      d. Asclepius

B. Classical Medicine
   1. 500 B.C. - 500 A.D.
   2. Highest development of ancient medicine
   3. Departed from supernatural explanations to natural and scientific description and treatment
   4. Used cathartics, sedatives, diet, drugs, and surgery in that order
   5. Had great surgical skills for wounds, fractures, and dislocations. Had operations for fistula of the anus and hemorrhoids, trephining, and opening of the empyemata
   6. Hippocrates
      a. Physicians oath
      b. Humors - blood, yellow bile, black bile, phlegm the impairment of which caused disease
   7. Galen 130 - 200 A.D.
      a. Bones and muscles
      b. Nervous system
      c. Blood Vessels
      d. Influence lasted 1500 years
   8. Contributions:
      a. The objective observation of disease as a natural occurrence, coupled with the maintenance of case records and the consideration of the patient rather than his disease as the chief object of study
      b. An ethical code of professional medical practice
      c. The concept of spontaneous healing by nature
      d. The acceptance of the wise, modest, and humanitarian physician as a basic pillar of society

C. Arabic Medicine
   1. Absorbed Greek knowledge of medicine and added to it
   2. Source of Western knowledge through the 1500's
   3. Rhazes 865 - 925 A.D.
      a. Identified smallpox and measles, hay fever, pupil reaction to light
      b. Books on children's diseases and other extensive medical books

4. Avicenna 980 - 1037 A.D. Wrote Canon Medicinae - the most popular work in the history of medicine

D. Europe in the Middle Ages c. 500 - 1500 A.D.
1. Doctors
    a. Medicine
    b. Barber-surgeons
2. Depended absolutely on theories of Hippocrates, Galen and other ancient authorities
3. Hospitals
    a. Hotel-Dieu founded by the Franks in 542 A.D.
    b. Order of Hospitallers of the Holy Ghost 1180 A.D. initiated a wave of hospital building
4. Magic, astrology, amulets, relics, fairies, etc.
5. Therapy
    a. Diuretics
    b. Purges
    c. Bleeding
    d. Sudorifics
6. The late Middle Ages had three or four revolutionaries
    a. Phillipus Aureolus Theophrastus Bombastus von Hohenheim (Paracelsus)
        (1) 1490 - 1541
        (2) introduced pure chemical for specific diseases
        (3) scientific dosages
        (4) helped to destroy total dependence on ancient authorities
        (5) nature heals (wounds must be kept clean)
    b. Ambroise Pare 1510 - 1590
        (1) barber-surgeon
        (2) gunshot wounds (dressing vs. cauterization)
        (3) ligatures for amputations vs. cauterization
    c. Vesalius 1514 - 1564
        (1) anatomy
        (2) surgery scientific

E. Major advances of the modern era 1600 - 1970
1. William Harvey 1578 - 1657
    a. The heart is a pump
    b. Blood circulates
2. Antony Van Leeuwenhoek 1632 - 1723
    a. Microbiology
    b. Protozoa and bacteria
3. Giovanni Morgagni 1682 - 1771
    a. Pathologic anatomy
    b. Disease associated with specific organs
4. James Lind 1716 - 1794
    a. Cured scurvy
    b. Britain and Napoleon
    c. Changed world navies (uniforms, hygiene, food, etc.)
5. Edward Jenner 1749 - 1823
    a. Smallpox vaccination
6. Louis Pasteur
    a. Bacteria and fermentation
    b. Rabies
7. Joseph Lister
    a. Bacteriology
    b. Antisepsis
    c. Surgery changed

8. Robert Koch
    a. Tuberculosis
    b. Cholera
9. Anesthesia by William Morton
10. Yellow fever and typhoid
11. X-rays
12. Freud and psychiatry
13. Drugs
    a. Penicillin
    b. Sulfanomide
    c. Antibiotics
14. Immunology
    a. Smallpox
    b. Polio
    c. Typhoid
    d. Tetanus
    e. Diphtheria
    f. Measles
    g. Influenza
        (1) 1918-19 (killed more than 15,000,000 people)
        (2) World Influenza Center - London. New viruses sent there and vaccines developed quickly
15. Endocrinology (secretions of endocrine glands can help diseases like rhematoid arthritis)
16. Surgery
    a. Antisepsis
    b. Asepsis
    c. Shock
17. Transplants
    a. Kidneys
    b. Heart
18. Plastic surgery

WORLD HISTORY

HOSPITALITY/RECREATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
Technology and Science After the Industrial Revolution	1. Define technology 2. Explain the relationship between science and technology 3. List three major technological advances of the 20th century 4. Show the relationship between technological advances and industrial growth 5. Define the term corporation and give two examples 6. Describe the change of America from rural to urban living.	Hospitality/Recreation	1. List the three major job families in this cluster. 2. Discuss on paper the variety of career possibilities in this cluster. 3. Identify and describe specific job characteristics of three job titles from this cluster.	1. The change in America from rural to urban living would be a good place to emphasize the increased leisure time and income and suggests the possibility of introducing careers associated with hospitality and recreation. Supp. B-33. 2. Distribute the outline of the history of hotels (Supp. #1) and sports (Supp. #2) so that students may have an overview of career possibilities in this cluster. Discuss as necessary. 3. To familiarize students with the variety of this cluster, two suggested activities are: a. Distribute numbered pictures from magazines or elsewhere and ask for description (Supp. #3). Discuss. b. Ask for extra credit reports on suggested topics or one approved by the teacher. (Supp. #4) c. Invite a speaker from this cluster. (Supp. A-2) 4. Using Supplement B-34, let students research three job titles in the career lab. They may report on Supp. A-5.

THE HISTORY OF HOTELS

Supplement #1

- I. History
  - A. Roman times
    - 1. Mansiones
    - 2. Beside Roman roads
    - 3. For those on government business
  - B. Middle Ages
    - 1. Operated by monasteries
    - 2. Great St. Bernard Pass
      - a. Swiss Alps
      - b. still operating
    - 3. Use by merchants later
    - 4. Innkeepers were bankers and brokers
  - C. Modern era
    - 1. Stimulated by Industrial Revolution
    - 2. English inns set high standards
    - 3. American inns set standards for size
      - a. 1,000 rooms common
      - b. elsewhere, 600 rooms were rare
    - 4. Resort hotels
      - a. French and Italian Rivieras
      - b. vacationers spent the entire winter or summer seasons
    - 5. Railroads stimulated hotel growth
    - 6. Statler Hotels
      - a. New York
      - b. business travelers
      - c. first great chain of hotels
  - D. Postwar developments
    - 1. Motel
      - a. automobile
      - b. informal
      - c. swimming pool
    - 2. Chain operation
      - a. after World War II
      - b. Hilton Hotels
      - c. Holiday Inns (most guest rooms)
    - 3. Franchising
      - a. since 1950
      - b. purchase, license fee, advertising fee, sign
      - c. franchiser provides the know-how
      - d. purchaser owns land, buildings and equipment
      - e. belongs to a referral service
    - 4. Resort hotel
      - a. open all seasons
      - b. Mediterranean, Caribbean, Hawaii
      - c. Miami Beach, Florida has 48 hotels per sq. mile
    - 5. Residential hotels
      - a. apartment building with maid service, dining room and room service
      - b. suites to single rooms
    - 6. Condominiums
      - a. suites owned by an individual
      - b. rented out in resort areas
    - 7. Management
      - a. computerized
      - b. labor costs versus productivity

A HISTORY OF SELECTED SPORTS

Supplement #2

- A. Track and Field
  - 1. Practice for war
  - 2. Oldest athletic competition
  - 3. Egyptians and others in B.C.
  - 4. Ireland - 1829 B.C.
  - 5. Olympic games
    - a. 776 B.C. and before
    - b. Ended 393 B.C. by Theodosius
    - c. "Stade"
      - (1) earliest competitive event
      - (2) 200 yards long
    - d. Oldest known measured mark
      - (1) 23' 1-1/2"
      - (2) 656 B.C.
    - e. Greek women had own games
  - 6. Middle Ages had no known contests
  - 7. Modern events revived in England c. 1154 A.D.
    - a. Started again under Henry VIII in 1400's
    - b. Pedestrianism - 17th century
      - (1) footmen races
      - (2) 20 miles in 1-1/2 hours - doubtful
      - (3) 4-1/2" mile by Horace Walpole - 1787
    - c. In English public schools by 1800's
    - d. Organization for amateur athletics
    - e. Part of American college and university curriculum
- B. Other Sports
  - 1. Tennis
    - a. From real or court tennis c.1100 or 1200's
    - b. Lawn tennis invented by Major W. Wingfield in North Wales
  - 2. Football
    - a. A type played in ancient times
    - b. Harpastum
      - (1) Greeks and Romans
      - (2) ball thrown between two bands of players
      - (3) used goal posts
      - (4) brought to Britain
    - c. Melee or Mellays
      - (1) animal bladder
      - (2) kick, punch or carry
      - (3) Shrove Tuesday games late 12th century
        - (a) several hundred men
        - (b) played for hours
    - d. British secondary schools in 17th century
      - (1) less violent
      - (2) could only be kicked
      - (3) 1823 - W. W. Ellis carried the ball; in his hands
        - (a) at Rugby School
        - (b) accepted as a rule later
      - (4) soccer (kicking only)
      - (5) rugby (carrying only)
    - e. American game
      - (1) both soccer and rugby

- (2) Princeton, Yale, Rutgers, Harvard, and others developed new rules as to number of players, how played and size of field
- (3) Walter C. Camp - 1880
  - (a) father of American football
  - (b) introduced scrimmage
  - (c) quarterback
  - (d) from 15 men to 11
  - (e) downs and yardage
  - (f) scoring system

3. Baseball
   - a. Rounders (English children's game)
   - b. Brought to America by English immigrants
   - c. Cartwright and friends
     - (1) developed standard rules in 1845
     - (2) tagging runner instead of hitting him
   - d. New rules adopted by clubs middle 1800's
   - e. Went publicly professional in 1872 with the National Association of Professional Baseball players
4. Basketball
   - a. American origin
   - b. Invented by J. Naismith in 1891
   - c. Developments
     - (1) from peach baskets to metal baskets to nets to open bottom 1913
     - (2) backboard in 1894
     - (3) dribbling 1900
     - (4) college teams by 1892
     - (5) NBA - 1898
     - (6) ABA - 1967

HOTEL PERSONNEL

Supplement #3

1. Picture No.:____________________

2. Job Title:____

3. Duties:____

____

____

____

HOTEL PERSONNEL

1. Picture No.:____________________

2. Job Title:____

3. Duties:____

____

____

____

SUGGESTED TOPICS FOR EXTRA CREDIT REPORTS

Supplement #4

HOTEL

1. How to manage a hotel
2. Use of automation in the hotel industry
3. Differences between residential hotel and resort hotel
4. How to be a chef

SPORTS

1. How to qualify for a "pro" position
2. Jobs available in a local parks department
3. Number and kinds of employees in a ball park
4. Write a 1/2 day activity program for a group of children
5. Report on the kinds of jobs and duties with a professional sports organization
6. The responsibilities of a recreational manager for a hotel, park, etc.

WORLD HISTORY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
Age of Revolution	1. List the countries in which revolution changed government from absolute monarchy to democracies.	At point of new managerial class, introduce "Management."	1. Recognize in a general way the contents of the Manufacturing cluster.	1. Distribute and discuss Supplement B-36.
	2. Describe to what extent the English Revolution had its roots in the Reformation.		2. Give some details relating to three job titles from the Manufacturing cluster.	2. Using materials from the career lab and whatever else is available, let the students report on three job titles from the Manufacturing cluster (Supplements B-40 and A-5).
	3. Identify the beginnings of political parties.		3. Recognize five job titles related to one of their three primary choices.	3. Using Supplement A-8, let students talk to parents, counselor, teacher, etc. and bring it back for extra credit.
	4. Identify three major developments in the growth of English democracy.			
	5. Trace the three important concepts in enlightenment thinking.			
	6. Describe the social classes of the Old Regime and its role in the revolution.			
	7. Compare the freedoms striven for in the English, American, and French revolutions.			
	8. List and describe two ways in which Napoleonic rule affected Europe.			
	9. Define the meanings of industrial revolution and technology.			
	10. Describe the relationship between the Industrial Revolution and socialism.			
	11. Identify the beginning of the union movement.			
	12. Identify three modern industries appearing during the Industrial Revolution.			

WORLD HISTORY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
The Middle Ages	4. Describe the relationship of the Crusades to politics and economics of Europe 5. Define nationalism and explain its effects on people	The United States Office of Education occupational cluster of Manufacturing - guilds and skilled workers	1. Recognize that the Medieval guild was organized on the basis of skilled workers 2. Recognize that the business of manufacturing requires a large number of skilled workers 3. Describe two occupations requiring skill associated with the manufacturing process	1. The Medieval guild was an important part of the reappearance of towns during the Middle Ages. Since they are concerned with the manufacturing of goods by skilled workers, it becomes a good place to introduce the class to the utilization of skilled workers in the modern manufacturing process. 2. Distribute and briefly discuss the place of craftsmen and skilled workers in the manufacturing cluster. (Supp. B-36) 3. Using Supplement B-37, let each student choose two manufacturing occupations and report on them using the "Career Exploration Worksheet" (Supp. A-5).

WORLD HISTORY

MARKETING & DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
Technology and Science After the Industrial Revolution	Students will be able to: 1. Define technology 2. Explain the relationship between science and technology 3. List three major technological advances of the 20th century 4. Show the relationship between technological advances and industrial growth 5. Define the term corporation and give two examples 6. Describe the change of America from rural to urban living.	Marketing & Distribution Cluster	Students will be able to: 1. Show how the occupations of shoe-making and housebuilding were the result of economic specialization. 2. Describe three kinds of jobs available in banks. 3. Name three career families dependent on trade. 4. Describe two jobs in other areas of marketing and distribution. 8. Using supplement A-5, students may collect information about two job titles, Supp. B-47.	1. The growth of industry and corporations present a good opportunity to discuss the career potential of this cluster. (Supp. B-45). 2. Distribute the outline of the History of Trade for discussion and inclusion in student notebooks. Supp. #1) 3. Have students write a paragraph on barter and money (Supp. #2). 4. Supplement #1 may also be an aid in the discussion of occupational specialization. 5. Guest speakers such as a banker, to talk about careers in money management would be helpful. A stockbroker could talk about money management and stock companies and their operation. In conjunction with or before this activity, obtain brochures from insurance companies for distribution to the class. An excellent filmstrip is a two-part presentation by Pathescope Educational Films, "Careers in Banking and Insurance." 6. Audio-visual display: The kinds of objects used for money pictured in World Book Encyclopedia as an aid in the discussion of money. 7. Ask for a paragraph or paper on economic spin-offs (See Supp. #3).

WORLD HISTORY

Supplement #1

History of Trade

- I. Ancient Trade (B.C.)
  - A. Europe and Egypt
    - 1. Flint
    - 2. Salt
    - 3. Lumber
    - 4. Gold
    - 5. Antimony
    - 6. Slaves
  - B. Phoenicians (1200-300 B.C.)
    - 1. By sea
    - 2. Eastern Mediterranean
    - 3. Established regular trade routes
    - 4. Wide variety of goods
      - a. metal
      - b. livestock
      - c. cloth
      - d. gems
      - e. wine
      - f. slaves
    - 5. Invented phonetic alphabet
  - C. Romans
    - 1. Eastern hemisphere linked by trade routes
    - 2. Traded overland with China
  - D. Money expedites trade
    - 1. Stores value
    - 2. Portable
    - 3. Many kinds
      - a. jewelry
      - b. wampum
      - c. paper
      - d. coins
        - (1) Lydia - 700 B.C.
        - (2) Greece
        - (3) Rome

- II. Middle Ages
  - A. Barbarians interrupt Eurpoean trade
  - B. Arabs
    - 1. Colonies on west coast of India
    - 2. In China by the 8th century
  - C. Crusades aroused interest in Oriental goods (1100)
  - D. Marco Polo's book inspires establishment of a direct trade route with China (1400)
  - E. Venice and Genoa
    - 1. Trade between western Europe and Constantinople to central Asia and Russia
    - 2. Ship sizes changed from 2,000-3,000 tons to 200-500 tons.

- F. Scandinavia and Germany
  - 1. Trade with Greenland
    - a. timber, iron products, grain, salt
    - b. dairy products, wood, furs, ivory, skins
  - 2. Hanseatic League
    - a. traded with Russia
    - b. expanded to 100 members
    - c. included most nations in and around the Baltic Sea
    - d. peak in 14th and 15th centuries
  - 3. Center of trade moved to Atlantic Coast
    - a. Flemish wool
    - b. expanded to all goods
- G. Layed foundations for modern trade
  - 1. Commercial contracts
  - 2. Double-entry bookkeeping
  - 3. Commercial insurance
  - 4. Standard weights and measurements
  - 5. Used paper vs. parchment
  - 6. Near East routes close
    - a. new routes
      - (1) DeGama sails around Africa to India - 1498
      - (2) in 1514 China reached by sea
      - (3) 1492 Columbus finds West Indies
      - (4) 1519-1522 Magellan sails around South America
    - b. beginning of transoceanic trade routes

- III. Modern Trade
  - A. Centers
    - 1. Belgium, France, Spain - 16th century
    - 2. England and the Netherlands - 17th century
  - B. Commodities
    - 1. India
      - a. spices
      - b. cotton calicoes
    - 2. Americas
      - a. gold and silver bullion
      - b. sugar
      - c. tobacco
    - 3. Changed European living standards
      - a. personal cleanliness
      - b. smoking
      - c. new industries
  - C. Commercial organization
    - 1. Partnerships
    - 2. Joint stock companies
      - a. East India Company
      - b. Hudson Bay Company
      - c. Dutch East India Company
  - D. Money replaces barter (Europe)
  - E. The development of nations has two important results
    - 1. Internal barriers to trade fall
      - a. tolls
      - b. highway robbery
    - 2. Mercantilism imposed on foreign trade

F. Technology
  1. 18th century
    a. astronomy
    b. cartography
  2. 19th century
    a. railroads
    b. steamships
    c. metal hull
    d. telegraphy
G. Changing economic policy
  1. Away from mercantilism
  2. Toward freer trade
  3. From $5 billion in 1820 [illegible] $300 billion in 1971

WORLD HISTORY

Supplement #2

Barter and Money

Distribute a dittoed list (or write on the black board) of items used by ancient man which he obtained by barter. Repeat the items on individual slips of paper for distribution among the students. Make sure there is enough for at least four slips for each student. Instruct the class that they are to choose items from the list which they need for their use and they will have ten minutes to circulate among the class and arrange a trade of what they have for what they need. They must choose 4 items from the list which they do not have.

Next distribute slips of paper with money values written on them and again obtain four items from the list. This activity should be followed by a discussion of the barter and money systems of trade emphasizing that money stores value and is portable. Require a paragraph from the students summarizing the lesson.

Also ask, "How did the barter system come into existence?" Students will reply, "Because people needed things they didn't have." Ask, "Why did they not make it themselves?" Answer should be, "They did not have time enough at this point in the evolution of civilization." Use this opportunity to discuss occupational specialization then and now.

1. cloth
2. shoes
3. bricks
4. tiles
5. meat
6. milk
7. flour
8. fruit
9. cow
10. goat
11. cheese
12. dye
13. wool
14. linen
15. seeds
16. adze
17. axe
18. hatchet
19. hammer
20. cooking kettle
21. plates
22. cups
23. wooden spoon
24. charcoal
25. table
26. chairs
27. couch
28. jewelry
29. leather
30. needle
31. spear head
32. arrowhead
33. wooden beams
34. wine
35. clay pot
36. oil

WORLD HISTORY

Supplement #3

Trade Industries

Make a collage using pictures cut from magazines, newspapers, advertising supplements, or using actual objects to illustrate the kinds of occupational opportunities and exonomic spin-offs generated by trade: Show how a product is purchased in a grocery store. Show its original source, any processing it requires, its shipment to a wholesaler, and to a retailer.

Display the collage instructing the class that they are to write a paragraph or essay interpreting the picture in terms of the different kinds of industries or businesses necessary in the process of moving that product from its starting point to its final condition and to the consumer.

An active class discussion without a written assignment would, perhaps, be sufficient to establish an understanding of these examples of industry created by trade.

WORLD HISTORY

PUBLIC SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
The Beginnings	1. Define civilization in a historical sense. 2. Locate on a map and discuss the four early centers of civilization. 3. Describe the role of Egypt and the Fertile Crescent as the starting points of Western Civilization. 4. List four major contributions of early peoples to Western Civilization. a. Government b. Law c. Writing d. Mathematics	U.S.O.E. Public Service Cluster	1. Know his interests and capabilities as shown by surveys and tests. 2. Identify the U.S.O.E. taxonomy of occupational clusters. 3. Recognize government as the major employer in the Public Service cluster. 4. List the duty descriptions and other factors of work environment from three job titles in the Public Service cluster.	1. Provide the class with opportunities to take such self-inventory items as the Ohio Vocational Inventory Survey and the California Maturity Inventory. Results should be discussed with the class. 2. At the point in the unit where the development of government comes under discussion, introduce the U.S.O.E. taxonomy of occupational clusters with emphasis on the Public Service cluster. (Supp. B-2 and B-51. Point out that almost all of the services indicated are provided by government agencies. 3. Using supplement A-5 and utilizing the services of the career lab, let students report on three jobs from the Public Service cluster. See Suppl. B-53 as a source. 4. Speakers from Public Service are easily obtained. See Suppl. A-2 and A-3.

WORLD HISTORY

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
Age of Revolution	1. List the countries in which revolution changed government from absolute monarchy to democracies.	Railroad and steamship (Passengers & Cargo)	1. Identify three kinds of occupational groups, other than water borne, within the Transportation cluster.	1. At some appropriate place in the Industrial Revolution, such as the development of the rail industry or invention of the locomotive, introduce the Transportation cluster. (Supplement B-55)
	2. Describe to what extent the English Revolution had its roots in the Reformation.		2. Identify three jobs of their own choice from one or more transportation industries other than water borne cargo.	2. Students have a diagram in their notebooks explaining the Transportation cluster Call attention of the students to other occupational groups in this cluster.
	3. Identify the beginnings of political parties.		3. Identify passenger service as the second income-producing product in the transportation cluster.	3. Show Part II of the filmstrip "Careers in Transportation" by Pathescope Educational Films.
	4. Identify three major developments in the growth of English democracy.			4. Bring to the classroom from the career lab, or from whatever other sources are available, job information so that students may report on Supplement A-5, three jobs from the Transportation cluster other than water borne cargo, using the Job Title List, Supplement B-57.
	5. Trace the three important concepts in enlightenment thinking.			
	6. Describe the social classes of the Old Regime and its role in the revolution.			
	7. Compare the freedoms striven for in the English, American, and French revolutions.			
	8. List and describe two ways in which Napoleonic rule affected Europe.			
	9. Define the meanings of industrial revolution and technology.			
	10. Describe the relationship between the Industrial Revolution and socialism.			
	11. Identify the beginning of the union movement.			
	12. Identify three modern industries appearing during the Industrial Revolution.			

WORLD HISTORY

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Students will be able to:		Students will be able to:	
Age of Exploration	1. Describe the relationship of economics to this major historical development	Transportation (water borne cargo)	1. Identify transportation as a USOE job cluster	1. At the point in the unit (perhaps curriculum objective #4) appropriate to the discussion of Prince Henry and Portuguese exploration, introduce the "Transportation" career cluster (Supp. #1)
	2. Describe the impetus given to two important areas of commerce by the Age of Exploration		2. List movement of cargo as one income-producing product for which water transportation is utilized	
	3. Define technology and give three examples of its relationship to historical events (printing press)		3. List three kinds of job titles associated with water transportation of cargo	2. Distribute the diagram (Supplement B-55) describing the transportation cluster and point out that this cluster includes many other kinds of transportation facilities
	4. Describe the role of water borne cargo in the Age of Exploration			
				3. Show the filmstrip "Careers in Transporation" by Pathescope Educational Films, Part 1 only
				4. Distribute the list of job titles (Supplement B-56) and, using materials from the Career Lab, let the students report on Supplement A-5 for three jobs.

Supplement #1

The unit, "Age of Exploration," shows that the main interest of the Europeans in the Far East was concerned with reestablishing a trade connection from which they had been excluded by the Viennese monopoly of the traditional eastern Mediterranean routes.

The Transportation cluster may be introduced at this point by pointing out that the sea shipment of cargoes and passengers is an important area of modern commerce and has created interesting as well as lucrative career opportunities.

ESSENTIALS OF COMPOSITION

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course Essentials of Composition

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Disbribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Grammar and Usage		X	X		X	X		X					X		
Vocabulary			X		X	X	X	X					X		
Spelling		X	X		X	X	X	X					X		
Semantics			X		X	X	X						X		
Verbal Logic			X		X	X	X						X		
Practice Writing			X												
Speech/Oral Composition			X					X					X		
Composition		X			X	X	X	X					X		
Sentence Structure		X						X							
Mechanics		X						X							
Manuscript Form		X						X							

COURSE RELATIONSHIP TO THE GOALS

FOR CAREER EDUCATION IN CALIFORNIA

Course Essentials of Composition

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.		X	X		X	X	X	X					X		
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.		X	X		X	X	X						X		
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.		X	X		X	X	X						X		
4. Recognize that educational experiences are a part of total career development and preparation.			X				X	X							
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.															
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.			X		X										
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.		X	X		X	X	X	X					X		
8. Gain career orientation to increase exposure to the options available in the world of work.		X	X		X	X	X	X					X		
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.			X		X	X	X						X		
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.		X	X				X								

ESSENTIALS OF COMPOSITION

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Grammar . The Parts of Speech . The Parts of a Sentence . The Phrase . The Clause	I. A. Demonstrate familiarity with the eight parts of speech. B. Identify the subject, predicate and complement parts of a sentence. C. Identify and use the five phrase constructions found in typical English sentences. D. Recognize the distinction between phrases and clauses and identify and use noun, adjective and adverb clauses.	I. The student will recognize the responsibilities to himself and others when accepting a task or job.	I. A. Define attitude, identifying positive as opposed to negative or undesirable attitudes. B. Discuss the need for beneficial relationships between himself and others resulting from the performance of a job. C. Understand that a job done well is rewarded by self-satisfaction and the recognition of others. D. Understand that others rely upon him to complete an accepted job.	I. A. Class discussion of some common views of work, money, school, etc. B. Students work out a definition of attitude and write a paper exemplifying positive vs. negative attitudes. Students make a list of thei own desirable attitudes. Check with friends, family, etc. C. Students select three desirable attitudes to be developed especially as they relate to his career development. D. Teacher-led discussion to determine what an employer might reasonably expect of an employee. E. Teacher-led discussion or small group discussion to arrive at reasonable expectations of an employee.

ESSENTIALS OF COMPOSITION

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
II. Usage . The Varieties of English . Correct Agreement . Correct Pronoun Usage . Correct Use of Modifiers	II. A. Demonstrate familiarity with the three levels of usage as follows: Standard Formal Standard Informal Nonstandard	II. The student will recognize individual differences and become tolerant in his interpersonal relationships.	II. A. Show acceptance of individual differences by defending the right of others to hold attitudes and values different from his own.	II. A. The students will keep an hour-by-hour log of a weekend's activities for the purpose of identifying two or three values suggested by how they spent their time. Teacher might more successfully motivate students by preparing and sharing his own weekend log beforehand.
			B. Understand the psychological variables involved in interpersonal relationships between individuals.	B. The students will complete three sentences beginning with the words "I am proud that".....
			C. Appreciate the different ideas and values of others without having to adopt them.	C. The students will write short statements dealing with the following topics: . Two things I do well . The place I feel most at home is... . My greatest success in life has been... . The three most influential people in my life have been... . If I had only one year to live I would...
				D. The three words I would most like said of me are... (The three activities above are intended to encourage exploration of personal values and attitudes. Class sharing of their individual discoveries on a strictly voluntary basis will enhance the activity and bring out the concept of individual differences.

ESSENTIALS OF COMPOSITION

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
				II. E. Students will bring to class sample newspaper headlines to use as evidence of values and attitudes held by other people. They will write headlines as reflective of specific values and attitudes and will defend the rights of others to these values even though the writer does not happen to share the same views.
III. Composition: Sentence Structure . Complete Sentences . Coordination and Subordination . Placement of Modifiers . Sentence Variety	III. A. Avoid both fragmentary and run-on sentences. B. Recognize and use both compound and complex sentences to best fit the form to the content of their sentences. C. Avoid sloppy and unclear, if not ludicrous, meaning in their sentences by the careless placement of modifiers. D. Use various sentence types and word arrangements to achieve greater effectiveness in the areas of clarity, conciseness, and style.	III. The student will understand the variety of occupations found in the world of work.	III. A. Explore occupations within the Business and Office Cluster.	III. A. Teacher-led discussion of the 15 career clusters with special detailed attention to an introduction to the cluster under study during this unit, namely, Business and Office Careers. (Supplement B-2)

8

ESSENTIALS OF COMPOSITION

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
IV. Mechanics . Capitalization . Punctuation . Manuscript Form . Spelling	IV. A. Demonstrate mastery of all the elements of writing termed "mechanics" and be held to strict adherence of these conventions.	IV. The student will determine worker qualifications related to performing the basic tasks of various occupations.	IV. A. Understand the training and methods of entry related to specific occupations in the Business and Office Cluster.	IV. A. Time allowed both in and out of class to research various occupations in the Business and Office Cluster at the Career Center (Supp. A-5
	B. Maintain individual spelling lists and pass periodic tests.		B. Understand that personal traits are related to success in specific occupational areas.	B. Field trip arranged to a nearby company to allow face-to-face interviews with business and office type workers with questions geared especially towards items of personal abilities and aptitudes and attitudes for success. (Supplements A-2, A-3)
	C. Demonstrate on all written work neatness, legibility and the other usual requirements of manuscript form.		C. Understand that personal temperament relates to success in specific occupations.	

ESSENTIALS OF COMPOSITION

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
V. Composition: Paragraph and Longer Papers	V. A. Employ the topic sentence as a good tool in the expository writing of the student.	V. The student will develop the skills necessary for employment in the career of his choice.	V. A. Demonstrate proficiency in communication skills needed in his selected career.	V. A. Students will write a report on a specific occupation within the Business and Office Cluster to include pertinent information as follows: . job description . type of training . method of entry . personal traits desirable . worker traits desirable . advantages vs disadvantages . employment prospects
	B. Demonstrate in compositions of paragraph length, the device of a concluding or "clincher" sentence.			
	C. Employ the six methods of developing a paragraph to include the following: . facts . examples . incidents . arguments and reasons . comparison or contrast . definition			B. Students will simulate actual on-the-job activities for one of the following occupations: Shipping & Receiving Clerk Compare purchase order invoice, and supplies. File Clerk Do indexing & filing Receptionist Receive visitors in different ways Secretary Type and write lists Secretary Proofread a letter Secretary Prepare a business letter Employment Interviewer Select secretary on basis of interviews, tests and application forms Office Manager Prepare a vacation schedule Office Supervisor Choose new employees on the basis of various data and considerations.
	D. Demonstrate the concepts of paragraph unity and coherence.			

5-7

OVERVIEW

From his earliest scribbling on walls, through the advent of the printing press, telegraph, to today's laser transmissions, mankind has continually found ways of improving communication. Through the technical growth of communication and media there has arisen the need for the individual who is interested in expressing his ideas as well as helping others express theirs.

The employment market for competent, creative writers in the communication field has never been greater. Helping individuals to become aware of talent in communication, and developing it, is what this cluster is concerned with.

The approach that will be used is to direct the individual toward discovering and developing his own talent by offering, units on practical writing exercises using correct grammar, punctuation, and structure. Moreover, units of discussion and lecture on the subjects of: Methods of characterization, choice of subject, dialogue, point of view, structure, tone, and style and how they apply to the novel, short story, play, film, television, article, essay as fiction or nonfiction will be covered.

In addition, field professionals, as guest speakers, will speak and give advice on how to prepare and submit manuscripts to the proper market.

ESSENTIALS OF COMPOSITION

COMMUNICATION AND MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
1. Grammar	1. The student will review grammar rules as they particularly affect composition. Tests and exercises will strengthen accuracy in basic areas. 1.1 Capitalization 1.2 Punctuation 1.3 Usage 1.4 Agreement			
2. Vocabulary	2. The student will add to both his passive and active vocabularies by word study, dictionary work and tests on selected lists. Rather than review, he will be acquainted with new words that diagnostic tests indicate are somewhat above present levels of knowledge. Word-attack skills will be reflected in the selection of lists. 2.1 SAT preparation 2.2 Latin and Greek roots 2.3 Foreign phrases 2.4 Homonyns and near homonyms	2. Student recognition of the need for a large vocabulary for jobs in the Communication and Media cluster.	2. Students can use and define words directly used with this cluster.	2. Overview of communication field accompanied by terminology. The vocabulary emphasis here will be on general terms that any informed adult might possess.
3. Spelling	3. The student will be asked to learn to spell all vocabulary words and will receive a quick review of spelling rules.			
4. Semantics	4. The student will learn to distrust the idea of absolute meanings of words and phrases. By readings, tapes, lectures, worksheets and quizzes will recognize the symbolic nature of language. 4.1 "The word is not the thing" 4.2 Classification of statements 4.3 Contexts 4.4 Denotations and connotations 4.5 Abstracting	4. Students will recognize differences in meanings inhibit communication which can have real problems in communications values.	4. Students will learn to recognize facts from opinions in the nature of the work in this cluster.	4. Analysis of material from the media, particularly radio, television and newspapers on propaganda techniques 4.1 Advertising 4.2 Political statements

ESSENTIALS OF COMPOSITION

COMMUNICATION AND MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
5. Verbal Logic	5. The student will be able to pursue simple conclusions by testing them for reason. Readings, lectures and tests will support thinking. 5.1 Inductive to deductive reasoning 5.2 Testing hypotheses 5.3 Inadequate sampling; generalization 5.4 Syllogistic reasoning			
6. Practice Writing	6. The student will write several papers of various lengths and modes, both within and without the classroom, receive editing and individualized instruction of weaknesses. 6.1 Steps to any finished paper 6.2 Select 6.3 Brainstorm 6.4 Outline 6.5 Rough draft 6.6 Proofread 6.7 Final copy 6.8 The paragraph 6.9 Description and illustration 6.10 The essay 6.11 The research paper 6.12 Choosing and limiting 6.13 Finding basic references 6.14 Notetaking 6.15 Working bibliography 6.16 Writing from notes 6.17 Preparing final copy with footnotes and bibliography to MLA stylesheet	6.1 Students will recognize the speed at which levels of this cluster operates and place themselves in relation to tests changes. 6.2 Students will contrast varying jobs within cluster for range of responsibility, talent, particular skills, i.e., printer, broadcaster, sound mixer-editor, telephone lineman, columnist.	6.1 The student will realize how adaptive he must be to enter and change with with field. 6.2 The student can identify a probable level of comfort or success based on his own strengths.	6. A short paper discussing either the past or reasonable future of one aspect of communications to the one a speaker discussed.
7. Speech	7. The student will have experience in selecting a speech topic, researching, organizaing for a particular audience, delivering it, and assessing its overall effectiveness. Emphasis will be on the actual experience, audience analysis, and structure. 7.1 The motivational sequence 7.2 The relationships of speaker to audience 7.3 Audience analysis 7.4 Demonstration 7.5 Persuasion	7. Students will enact jobs found in news broadcasting preparations.	7. The student has a quick shot at a mini-mass media experience.	7. A taped "radio broadcast" of school news.

OVERVIEW

The introduction of this job cluster to composition students will emphasize consumer skills as necessary for everyone regardless of what career the student chooses. In addition to consumer skills, the students will also be exposed to possible careers available in this cluster. The emphasis on writing and speech skills in relation to acquiring and keeping a job within the Consumer and Homemaking Related careers will be stressed within this unit.

ESSENTIALS OF COMPOSITION

CONSUMER AND HOMEMAKING - RELATED CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
1. Grammar	1. The student will review grammar rules as they particularly affect composition. Tests and exercises will strengthen accuracy in basic areas. 1.1 Capitalization 1.2 Punctuation 1.3 Usage 1.4 Agreement	1. Student will be able to recognize their relationship between clear language expression on the job, i.e., a dietician's report.	1. Student's grammar control will be geared to a standard accepted anywhere within the cluster.	1. Interview the Home Service Advisor at the local gas company and write up the interview using correct grammar and spelling.
2. Vocabulary	2. The student will add to both his passive and active vocabularies by word study, dictionary work and test on selected lists. Rather than review, he will be acquainted with new words that diagnostic tests indicate are somewhat above present levels of knowledge. Word-attack skills will be reflected in the selection of lists. 2.1 SAT preparation 2.2 Latin and Greek roots 2.3 Foreign phrases 2.4 Homonyms and near homonyms	2. Student will realize necessity for adding appropriate vocabulary terms.	2. Students can use words connected directly with cluster.	2. Prepare a 10-word vocabulary list based on new words introduced through career awareness in this cluster.
3. Spelling	3. The student will be asked to learn to spell all vocabulary words and will receive a quick review of spelling rules. Footnotes and bibliography according to MLA stylesheet.	3. Student will recognize other language on the job, also requires correct spelling.	3. Students will spell all vocabulary entries correctly.	
4. Semantics	4. The student will learn to distrust the idea of absolute meanings of words and phrases. By readings, tapes, lectures, worksheets and quizzes will recognize the symbolic nature of language. 4.1 "The word is not the thing" 4.2 Classification of statements 4.3 Contexts 4.4 Denotations and connotations 4.5 Abstracting	4. Students will recognize differences in meaning inhibit communication, which can have real problems in communications values. (Is a homemaker a domestic engineer?)	4. By preparing interview questions students will improve both written and verbal communication with an emphasis not only on grammar but semantics.	4. Prepare a short essay on semantics in advertising based on the student's attempt to "purchase" a car or major household appliance.

Supplement #1

ESSENTIALS OF COMPOSITION

CONSUMER AND HOMEMAKING RELATED

Write a resume in your best composition form including the following:

education

previous work experience

military status

clerical and technical skills

personal qualitites

references

HOUSEHOLD BUDGET
Amount Spent

(Supp. #2)

25 - 35%	1.	Food-
18 - 30%	2.	Housing-
		A. rent-
		B. insurance-
		C. h.h. appliance-
7 - 12%	3.	Clothing-
5 - %	4.	Medical-
8 - 12%	5.	Transportation-
		A. car payment-
		B. insurance-
		C. gas to and from work-
3 - 5%	6.	Recreation and Advancement-
		A. entertainment-
		B. course-
2 - 10%	7.	Gifts and Contributions-
5 - 8%	8.	Personal Allowance-
4 - 6%	9.	Other Expenses-
	10.	Savings and Investment-

TOTAL ____________ SHOULD EQUAL MONTHLY BUDGET	TOTAL ____________ SHOULD EQUAL 100 %

Assignment 1 A

Meal Assignment

1. Plan 3 meals a day, 7 days a week.
2. Include all members of family except lunch for working partner, remember children may eat differently.
3. Cost of working partner's lunches must be added, include place as well, don't forget tip and drinks.
4. One evening meal out allowed, include cost + place, don't forget tip, drinks, and babysitter if needed.
5. You do not have to, but staples; sugar, flour, salt, pepper, spices, coffee or tea.
6. Grocery list accompanying meals must have all ingredients necessary to make meals, correct amounts + prices must accompany list.
7. Note differences in prices of meats, vegetables, canned goods, etc., you may want to use newspaper food coupons, store specials, economy packaging + off-brands.
8. Total prices, make sure it is within your budget.
9. Meals should demonstrate good nutrition as well as economy...

Assignment 1 B

1. Find a house or apartment to rent for your family, give price/mo. + address.

2. Note whether price includes water or gas or electricity.

3. Note if there is a cleaning deposit, security deposit, pet deposit, first and last month's rent, whether any of these items are refundable.

4. Assume you have your own furniture, be sure to plan for children and pets if you want them.

5. Note the distance from your rental to Pacifica, shopping, elementary schools if you have young children.

6. Your description of your rental should include the following:
    - number of rooms and kind of rooms
    - color and kind of carpet
    - color of walls, paneling or wallpaper
    - what appliances - kind of appliances
    - kind of heating, air conditioning
    - garage or carport
    - children or pets allowed
    - view
    - storage inside and out
    - apt. rules
    - laundry - trash
    - patio or balcony
    - pool, rec-room, activities

7. Be sure it is within your budget.

Assignment 2 A

1. Purchase a major household appliance on time.
2. Note the store, brand name of item you are purchasing and features of your item.
3. Assume you have $50 to put down.
4. What will your monthly payments be if you are to pay for your item in one year, what will your monthly interest be, what will your annual interest be.*
5. Note the price of the item on the tag as compared to the total cost of item after interest.
6. What justification can you give for purchasing this item, why did you choose it over others.

* tax deductable

Assignment 2 B

1. Purchase a car for your family on time.
2. Note the dealer, salesman, make, model of car as well as all features (include mi/gal.)
3. You have 20% of the sticker price to put down.
4. What will your monthly payments be if you purchase the car over a 2 year period, what will your monthly interest be, what will your annual interest be.*
5. Note the sticker price of the car as compared to total cost including interest, licence, dealer preparation, etc.
6. Who financed the car.
7. Why did you choose this car over others?

* tax deductable

Assignment 3 A

1. You will purchase car insurance for the car you just bought.

2. Assume you are 25, married, no tickets or accidents, there is no other family car, your partner does not drive, or any of your children.

3. What company will insure you, pick the best of 3.

4. What is your annual premium.

5. What coverage do you have,   pl   pd   med
   10 - 30 - 15

   - -liability
   - -comp
   - -collision*
   - -medical
   - -uninsured motorist
   - -road service

   * necessary if you have unpaid car

6. What are your deductables?

Assignment 3 B

1. Insure the apt. or house you are renting.
2. What company will insure you, pick the best of 3.
3. What is your annual premium.
4. What coverage do you have: contents
   living expenses
   personal liability
   medical (1) personal
   (2) accident
5. What are the deductables

   (note: read over policy at home)

Assignment 4 A

1. Purchase an item of clothing for each member of your family.
2. Name stores where you priced items + where you bought them.
3. What did you pay for the item, why didn't you buy it at one of the other stores? Why did you pick this particular item?
4. Be sure this is within your monthly budget.

Assignment 4 B

1. Determine family recreation for 1 month and enroll in a course to further your career.
2. List family members and type of entertainment for 1 month.
3. Include location and cost of entertainment, remember gas, meals, babysitters, tips, etc.
4. Be sure it is within family budget.
5. Determine what class you will take.
6. Where and when will you take it, what will be the cost.
7. Justify your recreation and your course.*

* tax deductable

Assignment 5

1. Fill in the rest of your budget form according to the percentages provided. You may choose the low or high percentage depending on your economic needs.

2. Do not fill in savings and investments according to percentages. Instead, put in that column all money you have left over after your other monthly expenses are paid.

3. Hand in completed budgets with assignments 1 - 4 stapled on back.

OVERVIEW

One of the fastest growing of all the job clusters, the environment is also the newest and hardest to predict in terms of job expansion and opportunities. Rooted in a concern for ecology and the organism, the field spans not only conditions as they actually exist but also projections of future impact.

Although many jobs within the cluster may be described as the technician variety, that label spreads into several levels from degree to non-degree occupations. It may be assumed that training for this cluster will, in fact, be broad in the sense that concerns spread from many sectors of the community. The ultimate training, however, may be localized, empirical and very specialized.

ESSENTIALS OF COMPOSITION

ENVIRONMENTAL CONTROL CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
1. Grammar	1. The student will review grammar rules as they particularly affect composition. Tests and exercises will stengthen accuracy in basic areas. 1.1 Capitalization 1.2 Punctuation 1.3 Usage 1.4 Agreement			
2. Vocabulary	2. The student will add to both his passive and active vobularies by word study, dictionary work and tests on selected lists. Rather than review, he will be acquainted with new words that diagnostic tests indicate are somewhat above present levels of knowledge. Word-attack skills will be reflected in the selection of lists. 2.1 SAT preparation 2.2 Latin and Greek roots 2.3 Foreign phrases 2.4 Homonyms and near homonyms	2. If students possess both the terminology of the business world and the specific language involved in the area of personal services drawing interest, the nature as well as the opportunities of the field are more clear.	2. Students will understand and be able to use trade jargon and business terms.	2. Students will take a short quiz on vocabulary terms associated with personal services. The overview of the field will include a discussion of specialized terms.
3. Spelling	3. The student will be asked to learn to spell all vocabulary words and will receive a quick review of spelling rules.			
4. Semantics	4. The student will learn to distrust the idea of absolute meanings of words and phrases. By readings, tapes, lectures, worksheets and quizzes will recognize the symbolic nature of language. 4.1 "The word is not the thing" 4.2 Classification of statements 4.3 Contexts 4.4 Denotations and connotations 4.5 Abstracting	4.1 The student should realize this quickly emerging field will continue to grow and that his knowledge of it will not be complete because of constant change. 4.2 D.O.T. (Both broad categories as well as specific jobs should be discussed)	4.1 The student should be able to evaluate his own life style, interests and concerns in terms of the jobs he now knows of within the cluster as well as possessing an awareness they will change. 4.2 Students should internalize - what relationships within this field suggest other occupations in other fields	4. Students will be asked to list all jobs they associate with this cluster before any discussion or instruction begins. After listing, they will evaluate their utility by grading them: A, B, C, D, I (don't know).

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
			- How one's values and lifestyle may affect the selection of this cluster, i.e., Do I believe in preserving present life patterns even if it disturbs profit considerations? Do I like working outdoors? Would I be comfortable working in a job that was not clearly defined because it had not existed a few years ago?	
5. Verbal Logic	5. The student will be able to pursue simple conclusions by testing them for reason. Readings, lectures and tests will support thinking. 5.1 Inductive to deductive reasoning 5.2 Testing hypotheses 5.3 Inadequate sampling; generalization 5.4 Syllogistic reasoning			
6. Composition	6. The student will write several papers of various lengths and modes, both within and without the classroom, receive editing and individualized instruction of weaknesses. 6.1 Steps to any finished paper 6.2 Select 6.3 Brainstorm 6.4 Outline 6.5 Rough draft 6.6 Proofread 6.7 Final copy 6.8 The paragraph 6.9 Description and illustration 6.10 The essay 6.11 The research paper 6.12 Choosing & limiting 6.13 Finding basic references 6.14 Notetaking 6.15 Working bibliography 6.16 Writing from notes 6.17 Preparing final copy with footnotes and bibliography to MLA stylesheet	6. The understanding, acceptance, and development of self is a lifelong process, is constantly changing and influenced by life experiences.	6. Life experiences can affect career choice.	6.1 From the above list, after discussion, students must select a job to which they assigned a relatively low grade and research its usefulness to society. A short term paper will result, with bibliography. Extra credit: An editorial on the necessity (or lack) attached to a particular job. 6.2 A guest speaker who is an urban planner who will discuss (among other things) how he happened to become an urban planner 6.3 Discussion afterwards on the relation of his work to a lifestyle, values, similar jobs in other fields, incidents which influenced choices. 6.4 Students turn in a short paper examining one aspect of the career choice.

OVERVIEW

The introduction of this job cluster to composition students will emphasize their own possible relationship to the field. The social, moral, and aesthetic values of the culture are likely to be percieved as important by all students as well as appropriate material for examination through writing and speech. An introduction, therefore, which acquaints students with a brief historical background leads comfortably to content and careers related to drama and literature, music, dance, painting and crafts.

ESSENTIALS OF COMPOSITION

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
2. Vocabulary	2. The student will add to both his passive and active vocabularies by word study, dictionary work and tests on selected lists. Rather than review, he will be acquainted with new words that diagnostic tests indicate are somewhat above present levels of knowledge. Word-attack skills will be reflected in the selection of lists. 2.1 SAT preparation 2.2 Latin and Greek roots 2.3 Foreign phrases 2.4 Homonyms and near homonyms	2. Students need to be familiar with those words and phrases closely associated with various fields in the world of fine arts. Familiarity, may be argued in many cases on the basis of general education but becomes essential in the understanding which might lead to a vocational commitment.	2. Students will learn terms peculiar to the fine arts field in the context of various job situations.	2.1 Students will turn in definitions of various terms from each field using each in a sentence correctly displaying its meaning. 2.2 Students will take a test from required list of terms (Supp. 1). 2.3 Students will be asked to explore and explain the etymology of five related terms concerned with one job.
3. Spelling	3. The student will be asked to learn to spell all vocabulary words and will receive a quick review of spelling rules.	3. Students need to spell relevant terms correctly for any written expression including written resumes.	3. Students will learn to spell all vocabulary terms correctly.	3. Students will be given spelling lists.
4. Semantics	4. The student will learn to distrust the idea of absolute meanings of words and phrases. By readings, tapes, lectures, worksheets and quizzes will recognize the symbolic nature of language. 4.1 "The word is not the thing" 4.2 Classification of statements 4.3 Contexts 4.4 Denotations and connotations 4.5 Abstracting	4. Students will examine some peripheral abstract terms associated with parts of this cluster in terms of their concrete reality, i.e., "star," "glamour," "creativity," "writing flair".	4.1 Students can separate some degrees of emotive verbalism about the nature of the work. 4.2 Students can recognize facts from opinions about the entire cluster.	4.1 Students will write their own reports, inferences and judgments about a particular job (Supp. 2). 4.2 Students will complete a worksheet on snarl and purr words connected with the cluster (Supp. 3).
5. Verbal Logic	5. The student will be able to pursue simple conclusions by testing them for reason. Reading, lectures and tests will support thinking. 5.1 Inductive to deductive reasoning 5.2 Testing hypotheses 5.3 Inadequate sampling; generalization 5.4 Syllogistic reasoning			

ESSENTIALS OF COMPOSITION

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
6. Composition	6. The student will write several papers of various lengths and modes, both within and without the classroom, receive editing and individualized instruction of weaknesses. 6.1 Steps to any finished paper 6.2 Select 6.3 Brainstorm 6.4 Outline 6.5 Rough draft 6.6 Proofread 6.7 Final copy 6.8 The paragraph 6.9 Description and illustration 6.10 The essay 6.11 The research paper 6.12 Choosing & limiting 6.13 Finding basic references 6.14 Notetaking 6.15 Working bibliography 6.16 Writing from notes 6.17 Preparing final copy with footnotes and bibliography to MLA stylesheet.	6. Students need to see their own work needs and preferences against a kaleidoscopic cluster of glamour to long hours, star quality to support function, talent to perspiration. The cluster of fine arts and humanities embrace as wide a scope of activities as an occupational cluster and the students need to see their proper interrelatedness as dealing with man himself.	6. Students can place themselves within the cluster matching their own interests and abilities and work needs, i.e., the individual who enjoys responsibility and handles equipment well may be able to visualize himself as a stage electrician. The student who displayed some prior commitment to the field and who enjoys writing may imagine himself as a drama critic.	6.1 Worksheet-diagrams prepared on three particular occupations with the entire cluster. Each must come from a different job family and each must exemplify a different criterion - ability as displayed by hobbies or other work - educational plans - salary needs 6.2 Students will turn in a two-page paper on "a typical work day" based on a selection first from the job family within the cluster and then an individual occupation. The style will be narrative, written in simple past tense. Students will be given two or three days for research in the career lab to prepare for the paper. 6.3 All students will write a short narrative which has as location a work site closely associated with an occupation located within total cluster.

Supplement 1

ESSENTIALS OF COMPOSITION

FINE ARTS AND HUMANITIES CURRICULUM UNIT

Personalized Vocabulary List

A. Select a field from which you will construct a list of related terms.

B. List all job titles which are unfamiliar with definitions (include at least five).

C. List all job activity terms which are related to job titles which have a particular meaning in this context (include at least five.)

D. Write one sentence using each of the terms from B and C correctly in a manner that displays you know the meaning.

Supplement 2

ESSENTIALS OF COMPOSITION

FINE ARTS AND HUMANITIES CURRICULUM UNIT

R-I-J Worksheet

Take a particular job situation from the field which interests you most and, through a definite time span, write three reports, three inferences and three judgments, tracing the event.

Example: A young artist who has had some kind of critical attention is about to open his first one man show. He is very nervous.

R - Joe's show will open at 1:00
I - Some art critics will appear
J - Joe will make a big success

Supplement 3

ESSENTIALS OF COMPOSITION

FINE ARTS AND HUMANITIES CURRICULUM UNIT

Emotive Language Worksheet

Fill in the blank with a word or term that suggests the connotative or denotative level contrasting with the other choices.

	"Purr" Word	Neutral Word	"Snarl" Word
1.	artist proof		cheap print
2.	dean of theatrical criticism	drama critic	
3.	ingenue	young female actress	
4.		pen and ink drawing	black and white mess
5.	artistic wall hanging		knots of rope
6.		ballerina	prima donna
7.	maestro	conductor	
8.		still life	bunch of fruit
9.	tender love story		tearjerker
10.		rock and roll	noise

ESSENTIALS OF COMPOSITION

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Composition: Sentence structure . Complete sentences . Coordination and subordination . Placement of modifiers . Sentence variety	I. A. Avoid fragmentary and run-on sentences. B. Show more clearly the inter-relatedness of his sentence ideas through the use of compound and complex sentencing. C. Demonstrate, through a judicious use of modifying elements, increased clarity and sophistication of style. D. Through a variety of sentence types and structures, match form to content and avoid a monotonous style.	I. Students will recognize that educational experiences are a part of his career development.	I. A. Understand the in-school steps necessary to qualify for selected occupations in the Health Occupations Cluster. B. Identify how selected school classes are related to specific careers or occupations in the Health Occupations Cluster. C. Recognize the significance of language and reasoning development and the mastery of content knowledge as a means of achieving career goals.	I. A. Guest speaker (principal, personnel manager, counselor, career guidance specialist) B. Class discussion on possible careers related to each course offered at the school Emphasis: 1. Inter-relationships of subject matter 2. Numbers employed in occupations 3. Preparation needed for employment 4. Related choices C. Quiz requiring the student to list two occupations directly related to each of six courses at the school D. Student makes a tentative choice of a career and identifies an educational program related to that career E. Career guidance specialist or local employment office counselor to give presentation emphasizing various elements of a logical, reasoned career goal. (Importance of personality traits, job characteristics, aptitudes, interests, and educational level required) F. Students take notes and take a quiz following the presentation.

ESSENTIALS OF COMPOSITION

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
II. Mechanics . Capitalization . Punctuation . Manuscript form . Spelling	II. A. Master the "mechanics" of writing and be held to strict adherence of these conventions.	II. Students will understand the relationship between career and life style.	II. A. Become aware of five other facets of the average person's life style in addition to his career.	II. A. Teacher lecture and class discussion on relationship of careers to spiritual well-being, family, friends, community, and leisure time; careers in the Health Occupations Cluster to be emphasized.
	B. Maintain spelling and vocabulary lists and pass periodic tests.	Career is central to the life style of most people but different people assign it greater or less importance dependent upon their individual value systems.	B. Understand that career selections are vital to his health, happiness, and general well-being.	B. Students will interview a working, married couple on their life style as it relates to their jobs.
	C. Increase specialized vocabulary of the occupational cluster under study.		C. Understand the advantages and disadvantages inherent in various careers as related to his life style.	C. Student will then project his own expectations of career and its relative importance to the other aspects of life.
	D. Demonstrate on all written work neatness, legibility and the other usual requirements of manuscript form.		D. Explore job opportunities in his geographic area in relation to economic trends and his life style.	D. Guest speaker from field of medicine/psychology. Supplement A-2.
			E. Appreciate that mobile careers can cause changes in an individual's life style.	E. Class discussion centering on specific limitations in reference to selected careers caused by physical or psychological handicaps.
				F. Students list five jobs and describe the activities the worker performs compatible with his personal health profile. Then list four jobs not able to do because of psychological, physical, or health limitations, explaining his inability.

5-35

ESSENTIALS OF COMPOSITION

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			G. Three to five minute oral report on a specific career contrasting the career's advantages as opposed to its disadvantages related to his specific life style expectancy.
III. Composition: Both written and oral presentations will receive attention in this unit	III. A. Write paragraphs and lengthier compositional work to emphasize the following: . Topic sentence . Sufficient development . Unity and coherence . Subject, appropriate to the length of composition . Logical sequencing of ideas			
	B. Perform a variety of speech activities involved to include the following: . Class discussion with guest speaker . Group discussions . Interviewing . Formal speech			

OVERVIEW

The keynote to this cluster of jobs grouped into personal services is a willingness to work with people. Person-to-person contact mitigates the cold effect of our ever increasing technological innovations. In addition, the funds expended by consumers for services is constantly a larger share of income and so the field is widely expanding.

This important source of employment is open to both new and experienced workers. The cluster of personal service occupations is generally concerned with personal improvements: the care of a person, his apparel or possessions and his physical appearance.

ESSENTIALS OF COMPOSITION

PERSONAL SERVICES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
1. Grammar	1. The student will review grammar rules as they particularly affect composition. Tests and exercises will strengthen accuracy in basic areas. 1.1 Capitalization 1.2 Punctuation 1.3 Usage 1.4 Agreement			
2. Vocabulary	2. The student will add to both his passive and active vocabularies by word study, dictionary work and tests on selected lists. Rather than review, he will be acquainted with new words that diagnostic tests indicate are somewhat above present levels of knowledge. Word-attack skills will be reflected in the selection of lists. 2.1 SAT preparation 2.2 Latin and Greek roots 2.3 Foreign phrases 2.4 Homonyms and near homonyms	2. If students possess both the terminology of the business world and the specific language involved in the area of personal services drawing interest, the nature as well as the opportunities of the field are more clear.	2. Students will underbe able to use trade jargon and business terms	2. Students will take a short quiz on vocabulary terms associated with personal services. The overview of the field will include a discussion of specialized terms
3. Spelling	3. The student will be asked to learn to spell all vocabulary words and will receive a quick review of spelling rules. Footnotes and bibliography according to MLA stylesheet.			
4. Semantics	4. The student will learn to distrust the idea of absolute meanings of words and phrases. By readings, tapes, lectures, worksheets and quizzes will recognize the symbolic nature of language. 4.1 "The word is not the thing" 4.2 Classification of statements 4.3 Contexts 4.4 Denotations and connotations 4.5 Abstracting	4.1 Students will examine some of the euphemisms associated with some jobs and test relationships to actual positions (i.e., mortician to grief therapists.)	4. Student will identify various jobs in operational patterns (salary, concrete working conditions, duties) being able to distinguish between these and subjective concerns (status, titles, etc.	4.1 Some students will write a short objective paper describing the working day of a ______. Others will describe the job as an onlooker might view it. 4.1 Supplement 1 will be a worksheet of unscrambling judgmental as well as objective terms and matching them to various situations
		4.2 The implications of changing context will be demonstrated by looking at the chef, housekeeper and beautician in very different situations	4.2 Students will try to "see" themselves in actual jobs in personal services	4.2 Discussions about feelings and ideas about particular jobs which arise from public stereotypes
		4.3 Students will test assumptions about various jobs for logical validity (i.e., All stewardesses are young and pretty)	4.3 Students will think through easy premises about particular jobs to logical conclusions	4-3 Supplement 2 will be a worksheet on syllogistic reasoning connected to actual jobs

ESSENTIALS OF COMPOSITION
PERSONAL SERVICES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
5. Verbal Logic	5. The student will be able to pursue simple conclusions by testing them for reason. Readings, lectures and tests will support thinking. 5.1 Inductive to deductive reasoning 5.2 Testing hypotheses 5.3 Inadequate sampling; generalization 5.4 Syllogistic reasoning			
6. Composition	6. The student will write several papers of various lengths and modes, both within and without the classroom, receive editing and individualized instruction of weaknesses. 6.1 Steps to any finished paper 6.2 Select 6.3 Brainstorm 6.4 Outline 6.5 Rough draft 6.6 Proofread 6.7 Final copy 6.8 The paragraph 6.9 Description and illustration 6.10 The essay 6.11 The research paper 6.12 Choosing & limiting 6.13 Finding basic references 6.14 Notetaking 6.15 Working bibliography 6.16 Writing from notes 6.17 Preparing final copy with footnotes and bibliography to MLA stylesheet	6. Students will recognize the interchangeability of some roles within each of the subclusters as relating to success or promotion	6. Students will evaluate how many essential skills are necessary for them in reaching the last rung on the ladder. Some may realize a job is more potentially complicated than it first seems; others may decide rewards are more or less than necessary	6. Students will write a paper tracing their probable skills at entry level to the highest point of achievement
7. Speech	7. The student will have experience in selecting a speech topic, researching, organizing for a particular audience, delivering it, and assessing its overall effectiveness. Emphasis will be on the actual experience, audience analysis, and structure. 7.1 The motivational sequence 7.2 The relationship of speaker to audience 7.3 Audience analysis 7.4 Demonstration 7.5 Persuasion			7. Students will interview each other for jobs, analyzing strengths, interests and experiences

Supplement 1

Match situation with phrase and label O for objective statement and J for judgmental statement:

1. A large restaurant with an extensive menu which specializes in lobster prides itself on the good service they render patrons. The company which delivers lobster every morning is on strike.

2. A new young stylist has just joined the staff of beauticians. Although his prices are higher than those of his colleagues, he has drawn away many of their customers.

3. An extremely successful resort hotel is considering opening a second branch in another area. Many of the personnel will be transferred about fifty miles.

4. The dry cleaning establishment has over twenty employees. Due to a flu epidemic, over twelve are out. The manager wants all work to proceed as usual.

A. Employees will pitch in to help in the present crisis.

B. The owners make so much money they can afford to help.

C. The situation is not fair to employees.

D. If he wants things done right, then the boss can try one of the menial jobs for a change.

E. Customers will adjust to conditions.

F. That's competition.

G. More money is indicated.

H. An honest day's work means giving the best to your employer.

I. Seniority should count for something.

J. Those are the breaks.

K. It's the company responsibility to explain the situation to customers.

L. Don't tell anyone.

M. Sharing would be fair.

N. He should be fired.

Supplement 2

SYLLOGISTIC REASONING

Fill in the missing premises and mark each for possible fallacy. Diagram.

1. A Chefs are men
B
C Karen is a man

2. A
B Shampoo girls work short hours
C

3. A The cleaners close at 5:00
B
C I will not be wearing my velvet suit tonight

4. A All maids change the sheets every night at our motel
B
C That is not hair oil on the pillowslip

5. A
B Mary is a waitress
C Mary receives a big portion of her income in tips

6. A My father likes short hair
B I have an appointment with the barber this afternoon
C

7. A Horse trainers must be patient people
B
C Henry won't mind waiting a little longer

8. A No airplane stewardess is afraid of heights
B Nancy is an airplane stewardess
C

9. A
B George is our wine steward
C We should have asked his advice

10. A
B Anne has been a bartender for three years
C That is not Anne's drink

GEOMETRY

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course Geometry

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Measurement & Conversion of Units	X	X	X	X	X				X	X	X	X			X
Identification of Polygon	X	X	X	X	X				X	X	X	X			X
Angle & Line Relation	X	X	X	X	X				X	X	X	X			X
Conguent & Similar Polygons	X	X	X	X	X				X	X	X	X			X
Ratio & Proportion	X	X	X	X	X				X	X	X	X			X
Circles	X	X	X	X	X				X	X	X	X			X
Perimeters	X	X	X	X	X				X	X	X	X			X
Area	X	X	X	X	X				X	X	X	X			X
Volume	X	X	X	X	X				X	X	X	X			X
Logic	X	X	X	X	X				X	X	X	X			X

COURSE RELATIONSHIP TO THE GOALS

FOR CAREER EDUCATION IN CALIFORNIA

Course Geometry

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.	X	X	X	X	X				X	X	X	X			X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.	X	X	X	X	X				X	X	X	X			X
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.	X	X	X	X	X				X	X	X	X			X
4. Recognize that educational experiences are a part of total career development and preparation.	X	X	X	X	X				X	X	X	X			X
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.	X	X	X	X	X				X	X	X	X			X
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.	X	X	X	X	X				X	X	X	X			X
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.	X	X	X	X	X				X	X	X	X			
8. Gain career orientation to increase exposure to the options available in the world of work.	X	X	X	X	X				X	X	X	X			X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.	X	X	X	X	X				X	X	X	X			X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.	X	X	X	X	X				X	X	X	X			X

GEOMETRY

Presently, the text used in Geometry classes at Pacifica High School is Modern Geometry Structure and Method by Dolciani, Donnelly and Jurgensen. The curriculum concepts outlined herein follow the text. Concepts, not necessarily order, are similar in other texts. Materials are easily shifted.

First semester's work has little material relating to careers. The second semester, however, is heavily application-oriented and therefore, rich in career concepts.

GEOMETRY

AGRI-BUSINESS AND NATURAL RESOURCES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			
I. Measurement and Conversion of Units	I. Identify given units of length, approximate, measure by ruler and/or formula, note distance and convert measurements from one unit to another.	I. Properties and products need to be counted, measured, grouped and packaged for production, marketing and consumption.	I. The student will be able to: Identify products by count, area, weight, volume, cost, (actual and projected).	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani; Houghton-Mifflin Publishers I. Compute board feet.
II. Identification of Polygons	II. Identify polygons by name, number and measure of sides, and measure and number of angles.	II. The vocabulary of recognition of shapes is identification of polygons.	II. Tools, machinery, products, their packaging, acreage should be identified by geometric configuration to facilitate communications and handling.	
III. Angle and Line Relation	III. Classify angles and measure, and note lines as being A. Parallel B. Perpendicular C. Intersecting D. Skew	III. A. Angles 1. Classification 2. Measurement of angles B. Lines 1. Parallel 2. Perpendicular 3. Intersecting 4. Skew	III. Arrangements should be identified as parallel, perpendicular, intersecting or skew.	
IV. Congruent and Similar Polygons	IV. Identify polygons as A. Congruent B. Similar 1. Equal angles 2. Proportional sides	IV. Identification of objects and/or areas as A. Congruent 1. Equal sides 2. Equal angles B. Similar 1. Proportional sides 2. Equal angles	IV. The packaging of many agricultural products demands identification as congruent with a given tolerance. Machinery and tools demand the same identification. Mapping and blueprinting are products of similarity. Students should solve these problems by applying the principles of congruence and similarity.	IV. Map Reading
V. Ratio and Proportion	V. Recognize ratios and solve proportions.	V. Reduction and enlargement; and prediction through sampling have solutions with ratio and proportions.	V. Solve problems of reduction and enlargement of maps and recipes, prediction of yield and population through the use of ratios and proportions.	V. Yield should be predicted from samplings
VI. Circles	VI. Identify angles and line segments and their measure as formed by segments intersecting with a circle.	VI. Recognition of circles and parts of circles is a requirement in identifying tools, their performance levels, and capacity of cylindrical and spherical equipment.	VI. Identify and measure circles and circle parts as they relate to agriculture, its machinery, production, and natural resources.	
VII. Perimeter	VII. Determine the perimeters of given geometrical configurations.	VII - VIII - IX: Production, conservation and consumption require products and property to be measured so that yield can be determined and processed.		
VIII. Area	VIII. Determine the area of given geometrical configurations.			
IX. Volume	IX. Determine the volume of given geometrical configurations.			
X. Logic	X. Be aware of induction as a form of reasoning, conclude inductively given sufficient data and be aware of false conclusions resulting from insufficient data.			

AGRI-BUSINESS AND NATURAL RESOURCES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
		X. Ultimately, the prediction of human needs serviced by agriculture and natural resources and the provision of these, if possible.	VII. Perimeters of given areas should be determined; enclosure materials, labor, cost and time determined.	
			VIII. Areas should be determined along with content, its quality, density (plant life, animal life, mineral deposits, etc.), economic value.	
			IX. Volumes of solids should be determined.	
			X. Samplings should give production predictions, effective techniques, labor and equipment needs.	

GEOMETRY

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			
I. Measurement and Conversion of Units	I. Identify given units of length, approximate, measure by ruler and/or formula, note distance and convert measurements from one unit to another.	I. A. Measurement 1. Approximate 2. Ruled B. Conversion of units	I. The student will be able to: Identify business forms, office machines and company products by measurement, approximation and/or rule; and convert measures.	I. Text: Modern Geometry, Jurgensen, Donnelly, Dolciani; Houghton-Mifflin Publishers
II. Identification of Polygons	II. Identify polygons by name, numter and measure of sides, and measure and number of angles.	II. The vocabulary of recognition of shapes is identification of polygons.	II. Objects of business A. Forms B. Machinery C. Products should be identified by shape, facilitating communications.	
III. Angle and Line Relation	III. Classify angles and measure, and note lines as being A. Parallel B. Perpendicular C. Intersecting D. Skew	III. Angles should be identified and measured. Lines should be noted as A. Parallel B. Perpendicular C. Intersecting D. Skew	III. Items should be noted as to arrangements, i.e. A. Parallel B. Perpendicular C. Intersecting D. Skew Angles formed should be noted by approximation and/or measurement.	
IV. Congruent and Similar Polygons	IV. Identify polygons as A. Congruent B. Similar 1. Equal angles 2. Proportional sides	IV. Reproductions are examples of congruent polygons as are sized items examples of similar polygons.	IV. Items should be noted as duplicate (congruent) or sized (similar).	
V. Ratio and Proportion	V. Recognize ratios and solve proportions	V. Problems involving enlargement and reduction such as patterns, mapping, recipes, etc., are solved with ratios and proportions.	V. Problems of enlargement and reduction should be solved through ratio and proportion.	
VI. Circles	VI. Identify angles and line segments and their measure as formed by segments intersecting with a circle.	VI. Identification and measurement of circles and circle parts.	VI. Circles and parts of circles should be identified and measured as parts of equipment and/or production.	
VII. Perimeters	VII. Determine the perimeters of given geometrical configurations.	VII - VIII - IX: Perimeters, areas and volumes should be computed to determine weight, capacity, storage, transport, time, etc.	VII - VIII - IX: Problems of perimeter, area, and volume should be worked to answer questions involving storage, capacity, packaging.	
VIII. Area	VIII. Determine the area of given geometrical configurations.			
IX. Volume	IX. Determine the volume of given geometrical configurations.			
X. Logic	X. Be aware of induction as a form of reasoning, conclude inductively given sufficient data and be aware of false conclusions resulting from insufficient data.	X. Sampling used with proportions and inductive reasoning can predict future needs in terms of products, labor, time, cost, etc., and, therefore, affect company action and policy.	X. With sufficient samplings predictions, business and office oriented, can be made.	

GEOMETRY

COMMUNICATIONS AND MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			
I. Measurement & Conversion of Units	I. Identify given units of length by approximation and/or measure and convert measurements from one unit to another.	I. Measurement is necessary to identify size and communicate this knowledge. It may be necessary or convenient to convert units of measure.	I. The student will be able to: Identify an object by size, approximated and/or measured and convert units of measure.	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani; Houghton-Mifflin Publishers. I. Measure pages, film, print, geographic areas, etc.
II. Identification of Polygons	II. Identify polygons by name, number and length of sides, number and size of angles and line segments which determine or are part of structure.	II. Identification of objects by shape facilitates communication whenever dealing with geometric figures.	II. Objects used to communicate and subject objects of communication should be identified by name and properties.	II. Students should find "names" of geometrical configurations in different media and identify the figure by drawing and labeling parts.
III. Angle & Line Relation	III. Identify angles by classification by size and measure and should note lines as being A. Parallel B. Perpendicular C. Intersecting D. Skew	III. Recognition and identification of lines and angles facilitate the use of any medium.	III. The placement of objects of communication should be identified by angle and/or line relation.	
IV. Congruent & Similar Polygons	IV. Polygons should be identified as congruent or similar and corresponding parts noted and their measurement found.	IV. Objects should be identified as being A. Congruent (equal in size and shape) B. Similar (same shape, proportion sides)	IV - V: Congruent and similar objects should be identified with equalities and ratios noted.	IV. - V: Students should identify objects named in communications as being similar as those shapes studied in geometry and, where possible, note ratios or corresponding ideas.
V. Ratio & Proportion	V. Compare like quantities by ratio and extend the relationship to similar quantities solving with proportions.	V. The enlargement or reduction of similar events and items are solvable through proportions.		
VI. Circle	VI. Identify angle and line segments and their measure as formed by segments intersecting with a circle.	VI. Identification of patterns circular in nature facilitates communication and the collection, computation and interpretation of data concerned with circular areas.	VI. Objects and patterns circular in nature, the subject of communication and/or used to communicate should be noted along with properites of the given figure.	VI. Circular zones such as airport radio control and radio stations can be studied to determine reach, area, and, therefore, audience population.
VII. Perimeters	VII. Find perimeters of geometric configurations.	VII - VIII - IX: In dealing with any physical item count and/or measurement is necessary for placement. This involves perimeter, area and volume.	VII - VIII - IX: Perimeters, areas and volumes of geometric figures should be computed to determine, verify and interpret the scope of problems dealing with geometric shapes.	
VIII. Areas	VIII. Find areas of geometric configurations.			
IX. Volume	IX. Find volume of geometric configurations.			
X. Logic	X. Be aware of inductive and deductive reasoning as forms of logic and conclude where sufficient data is given.	X. Any decision and/or interpretation of data makes use of one or both forms of logic: A. Induction B. Deduction	X. Be aware of inductive and deductive reasonings as a form of logic, identify examples of each in our multi-media world of communication and illustrate uses of each in communicating ideas.	

GEOMETRY

CONSTRUCTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
I. Measurement & Conversion of Units A. Lines 1. Ruler 2. Formula a. $(d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2})$ b. (midpoint $= (\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2})$) 3. Construction	I. A. Students should identify given units of length, label, measure by ruler and/or formula, note distance and convert measurements from one unit to another.	I. From the inception of the idea to the completed project or product, salesmen, engineers, equipment operators, carpenters, plumbers, electricians, etc. use measurement in construction. Every job requires measurement: need length space volume weight density material time cost labor Each worker translates measures from a given plan to his particular task and tool. He must convert from one unit of measure to another.	I. Students will be able to: A. Note site to be measured B. Select the proper tools for measuring C. Measure D. Know the table of linear measure E. Change units of measurement F. Compute (+, −, x, ÷) with these units G. Identify and label figures H. Find unknown dimensions by formula I. Construct similar figures labeling parts and dimensions.	Measuring with micrometer caliper Measuring angles with a bevel protractor Measuring familiar polygons and making scale drawings Text: Modern Geometry, Jurgensen, Donnelly, Dolciani Mathematics for Sheet Metal Fabrication, Delmar Publishers Mathematics for Plumber & Pipe Fitters, D'Arcangelo, D'Arcangelo, Guest Mathematics for Carpenters, Bradford
B. Angles & Conversion of Units 1. Protractor 2. Equations 3. Construction C. Angle Classification 1. Acute 2. Right 3. Obtuse D. Angle Relations 1. Complementary 2. Supplementary 3. Adjacent	B,C,D. Students should label angles, measure by protractor and/or equation, classify as to type and note angle relations to other angles.			
E. Line Relation 1. Parallel 2. Perpendicular 3. Skew 4. Intersecting	E. Students should identify lines at perpendicular, intersecting, parallel or skew.			
II. Identification of Polygons A. Triangles 1. Acute 2. Obtuse 3. Right a. Pythagorean theorem b. Special right triangles 1. 30°-60°-90° 2. 45°-45°-90° 4. Scalene 5. Isosceles 6. Equilateral-Equiangular	II. A. Students should identify and classify triangles by angles and sides noting angle and side measurement.	II. In recognizing and classifying polygons in construction all of the properties and relations between angles and lines are known with identification of the figure.	II. Students will be able to: A. Identify and classify polygons B. Name & measure parts C. Note: 1. The number of sides 2. The length of sides 3. The number of angles 4. The measurement of each angle D. Determine 1. Line segment relationships 2. Angle relationships	Related Mathematics for Carpenters, Reband Machine Technology, Smith Vocational & Technical Mathematics in Action, Levine
B. Quadrilaterals 1. Trapezoid 2. Parallelogram 3. Rectangle 4. Square 5. Rhombus	B. Students should identify polygons by classification noting angle and line measurement and relationships.			

GEOMETRY

CONSTRUCTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
II. C. Pentagon D. Hexagon E. Octagon F. Decagon G. N-agon				
III. Angle & Line Relation A. Interior angles B. Exterior angles C. Vertical angles D. Corresponding angles E. Base and Altitude F. Median G. Diagonal	III. Students should identify angles and lines, noting measure and relationship.		III. Students will be able to: A. Determine lines as 1. Parallel 2. Nonparallel a. Perpendicular b. Intersecting c. Skew B. Identify the angle made by intersecting lines C. Find line segments as they relate to polygons.	
IV. Congruent & Similar Polygons A. Equality B. Ratio & Proportion	IV. Students should identify equality and ratio in measurement as they exist in congruent and similar polygons.	IV. The reading and application of blueprints on the job is a function of similar and and congruent polygons and ratio and proportion.	IV. Students will be able to: A. Scale drawings from actual measurements, labeling and noting measurements. B. Transpose scale drawing into actual measurements.	
V. Circles A. Angles 1. Central 2. Inscribed 3. Interior angles formed by intersecting chords 4. Exterior angles formed by intersecting lines B. Line Segments	V. Students should identiry angle and line segments and their measure as formed by segments intersecting with a circle.	V. Recognition of circles and parts of circles is a requirement in identifying tools, their performance levels, and capacity of spherical and tubular equipment.	V. Students will be able to: A. Identify & Measure 1. Circles 2. Line segments, as they relate to circles 3. Angles, as they relate to circles B. Work problems, circular in nature related to construction.	
VI. Perimeter A. Polygons 1. Measurement 2. Formula B. Circles 1. Measurement 2. Formula	VI. Students should determine perimeters of given circles and polygons by measurement and/or formula and convert units.	VI. Perimeter formulas are used in estimating materials and placement of materials in construction.	VI. Students will be able to: A. Find perimeters of given polygons B. Determine necessary materials to cover given distances.	

GEOMETRY

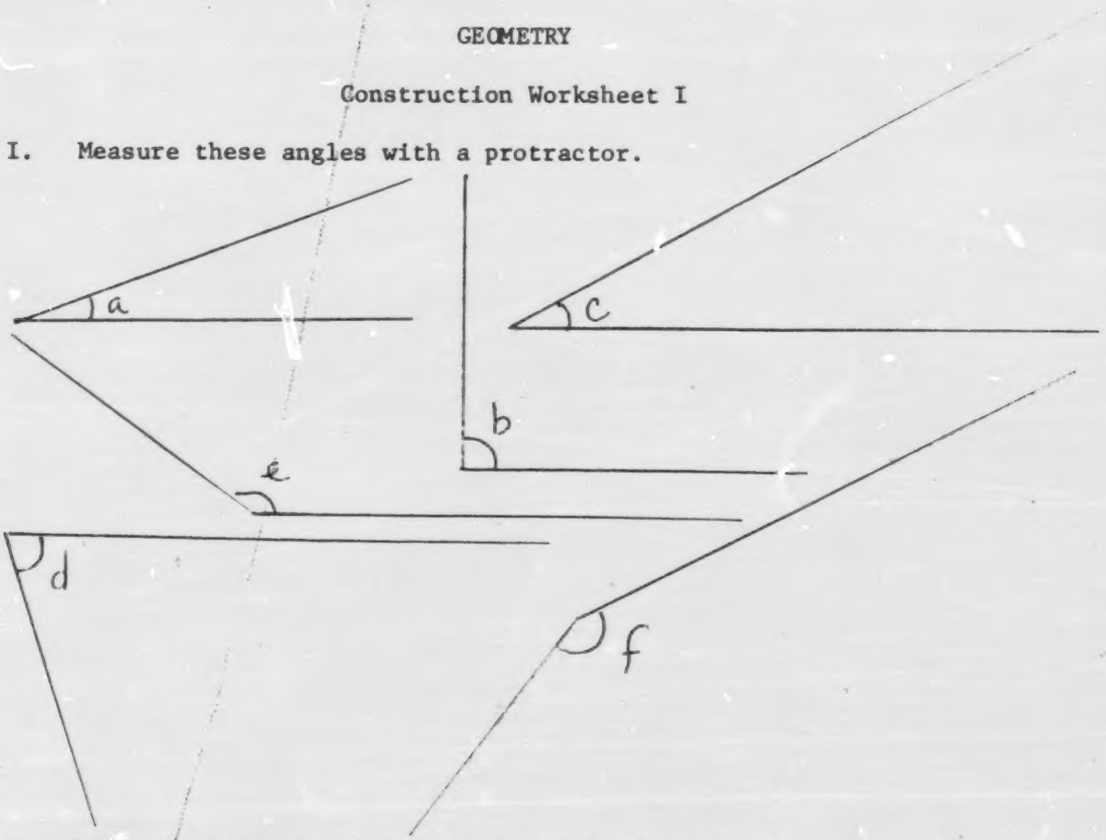
CONSTRUCTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
VII. Area A. Polygons B. Circles C. Prisms	VII. Students should determine areas of given circles, polygons and prisms by measurement and/or formula and convert units.	VII. Area formulas are used in determining materials and placement of materials in construction.	VII. Students will be able to: A. Compute areas of given polygons B. Determine necessary materials to cover given measures.	
VIII. Volume A. Right Prism B. Pyramid C. Cylinder D. Cone E. Sphere	VIII. Students should determine volumes of given solid figures by measurement and/or formula and convert units.	VIII. Volume formulas are used to determine capacity, materials necessary, placement of materials, etc.	VIII. Students will be able to: A. Determine capacity of given geometric solids B. Determine necessary materials to fill the cavity C. Compute time, weight, cost, pressure, etc., involved in capacity construction problems.	
IX. Logic A. Induction	IX. A. Students should be aware of induction as a form of reasoning, conclude inductively with sufficient given data and be aware of false conclusions resulting from insufficient data.	IX. Students should solve those construction problems which lend themselves to solution by measurement and computation by formula.	IX. In solving some problems in the construction business, students will be able to: A. Recognize the polygons involved B. Determine needed data C. Measure D. Select suitable formula E. Compute F. Transpose to useable units of measure G. Determine needed: 1. Materials 2. Labor 3. Time 4. Cost 5. etc. using and aware of uses of inductive and deductive reasoning in problem solving.	
B. Deduction	B. Students should be aware of deduction as a form of reasoning, identify properties of given sets, note elements as subsets of given sets, and thereby conclude properties of elements.			
C. Proof	C. Given terms and theorems, students should make a formal proof noting relationships that exist among elements.			

GEOMETRY

Construction Worksheet I

I. Measure these angles with a protractor.



II. Use a protractor and draw angles with the following measures:

a) 5° b) 45° c) 135° d) 30° e) 100°

f) 165° g) 90° h) 20°

III. Classify the above angles. (acute, right, obtuse, straight)

IV. Compute the following problems:

A. Change degrees to minutes.

1) 1° 2) 1.5° 3) 3° 4) 4/5° 5) 3/8°

B. Change minutes to degress. (use fractions if needed)

1) 60' 2) 120' 3) 100' 4) 45' 5) 10'

C. Change to seconds.

1) 1' 2) 1.5' 3) 3' 4) 4/5' 5) 3/8' 6) 1'

D. Add the following measures.

1) 35°
45°

2) 120°
14°36'

3) 45°15'
30°30'

4) 25°45'15"
3°10'33"

5) 35°45'
27°30'

6) 75°35'45"
30°40'20"

E. Subtract the following measures.

1) 45°
22°

2) 45°36'
35°

3) 50°35'
42°12'

4) 65°35'12"
28°20' 6"

5) 55°15'
28°30'

6) 65°
36°15'

7) 72°
27°35'12"

8) 37°
25°15"

F. Multiply the following measures.

1) 3(45°) 2) 4(27°10') 3) 2(32°12'15")

4) 5(42°15') 5) 6(25°30'45") 6) 3/2(90°)

G. Divide the following measures. (Express remainder in the next smaller unit.)

1) 64° ÷ 2 2) 97° ÷ 4 3) (35°22') ÷ 2

4) (46°5'30") ÷ 2

Construction Worksheet II

1. On a plan drawing using a scale of 1/8" = 1', a pipe length is represented by a line 4-7/16 in. long. How long will the pipe be on the actual job?

2. If 50 gallons of oil flow through a feeder pipe in 20 minutes, how long will it take to fill a tank of 950 gallon capacity?

3. For plaster work on wooden laths about 1-1/2 cu. yd. of sand are needed for each 100 sq. yd. How much sand will be needed for 4,752 sq. ft.?

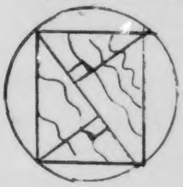
4. Determine the quantity of priming paint needed for 3,150 sq. ft. if one gallon covers 700 sq. ft.

5. Find the number of pounds of nails required for 3,750 lath if each thousand lath requires 6 lbs. of nails.

6. If 6 square feet of 8-inch brick wall with 1/2 inch joints contain 78 bricks, find the number of bricks needed for 120 sq. ft.

7. A person able to push with a force of 50 lb. employs a 12-foot plank. He wishes to push a 400 lb. object along the plank. How much a rise can be achieved?

8. The strongest rectangular beam that can be cut from a circular log is one in which the rectangular cross-section is such that perpendiculars from two opposite vertices trisect the diagonal joining the remaining two vertices. Show that the ratio of length to width of the cross-section is $\sqrt{2}:1$.



9. A rectangular building 200' x 135' is drawn to scale, 1/8" - 1'0". What is the size of the rectangle that will represent this building on a blueprint?

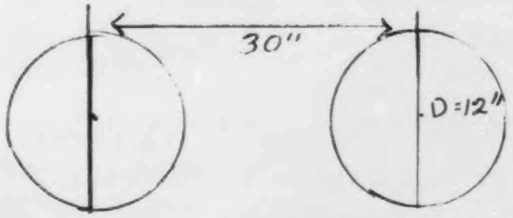
10. A room 16' x 10' is to be drawn to a scale of 1/8" - 1'0". Make this drawing.

392

GEOMETRY

Construction Worksheet III

1. Find the approximate length of belt in feet and inches (closest 16th) required for the job shown.

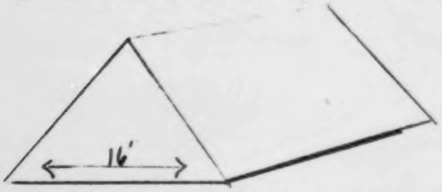


2. The layout of a structure indicates that it will be 42' long and 24' wide with 6 window openings, 6 doors, 1 partition extending the length of the layout, and 4 partitioned walls extending the width. How many studs are required if they are to be spaced 16" on center?

3. Weather stripping is a material placed around doors and windows to prevent drafts. The size of a window opening is 30" by 60". How many lineal feet of weather stripping are needed to extend across the top and down each side of the window?

4. If the diameter of a disc is 16", what is the length of wire needed to extend around the disc?

5. A hip roof is formed by inclining planes on all sides of the structure. The hip on the roof in the figure forms an equilateral triangle. With the given measurement, what is the perimeter of the triangle?

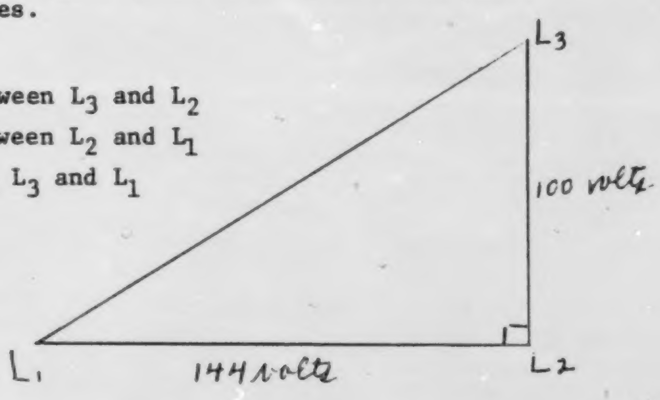


6. Find the perimeter, length of diagonal, and area of a square piece of wall board having 22 inch sides.

7. Given: a 100-volt line between L_3 and L_2

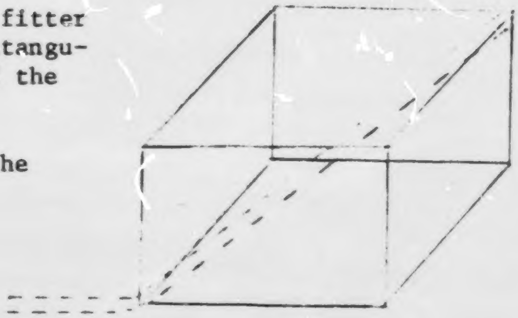
   a 144-volt line between L_2 and L_1

   Find: the voltage between L_3 and L_1

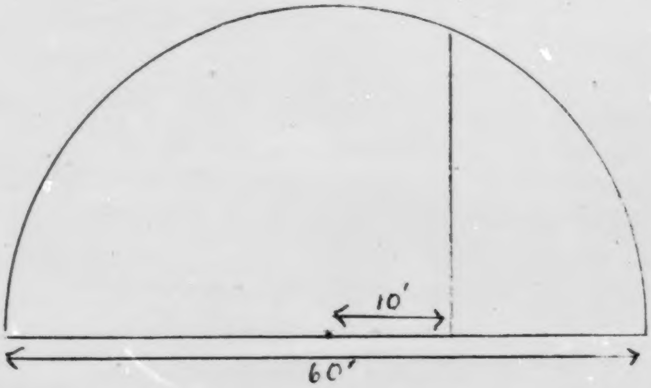


8. For the job pictured, the pipe fitter must find the diagonal of a rectangular solid to find the length of the diagonal run.

   If l = 10, w = 8, h = 6, find the diagonal.

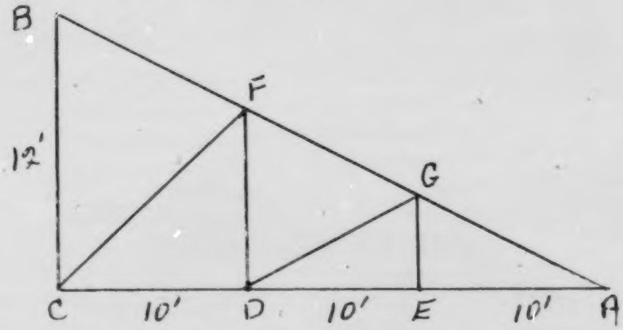


9. The dome of a building is in the shape of a semicircle that spans 60'. What is the length of the vertical support 10' to the right of the center?



10. In building a bridge, panels as pictured are needed. In the figure, the timbers CB, DF and EG are perpendicular to CA. From the given dimensions, find the length of the timber.

DF =
EG =
CF =
DG =
AB =



394

Construction Worksheet IV

1. Find the cost of insulating the total area of 5 water tanks measuring 18" in diameter and 4" in length at 5¢ per square foot.

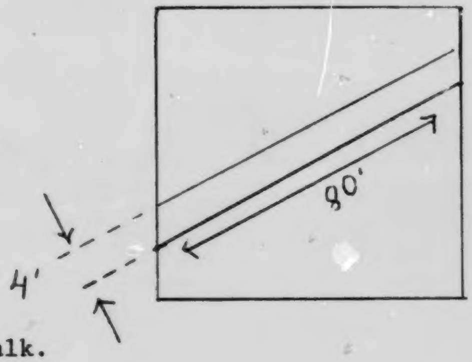
2. For subflooring diagonally applied, add 30 percent to the calculated amount. How much must be allowed for a rectangular floor 35' by 25'?

3. Determine the number of square feet in a plot of land 2-1/3 sq. yd. by 25-1/2 sq. yd.

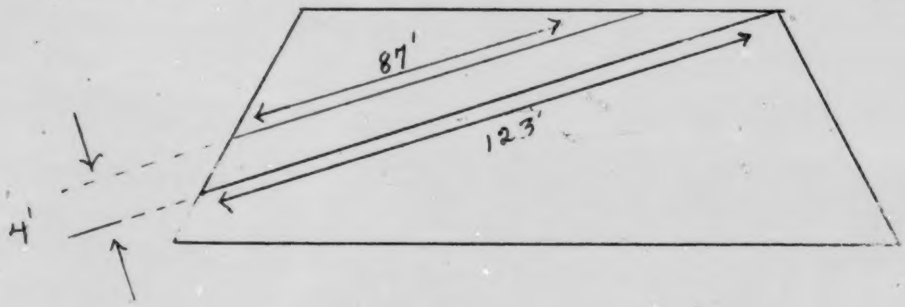
4. Approximately how many oblong tiles 6 in. by 4-1/4 in. will be required to cover the floor of a shower room 15 ft. wide and 32 ft. long?

5. A room 24 ft. long, 16 ft wide, and 9 ft. high has a door opening 6 ft. wide and 7 ft. high, and 6 windows 3 ft. 6 in. wide and 6 ft. high. Find the total area of the walls and ceilings without the openings, the total area of the openings, and the area less the openings.

6. A sidewalk 80 ft. long and 5 ft. wide cuts across a lawn. By how many sq. ft. is the lawn area reduced by the sidewalk?

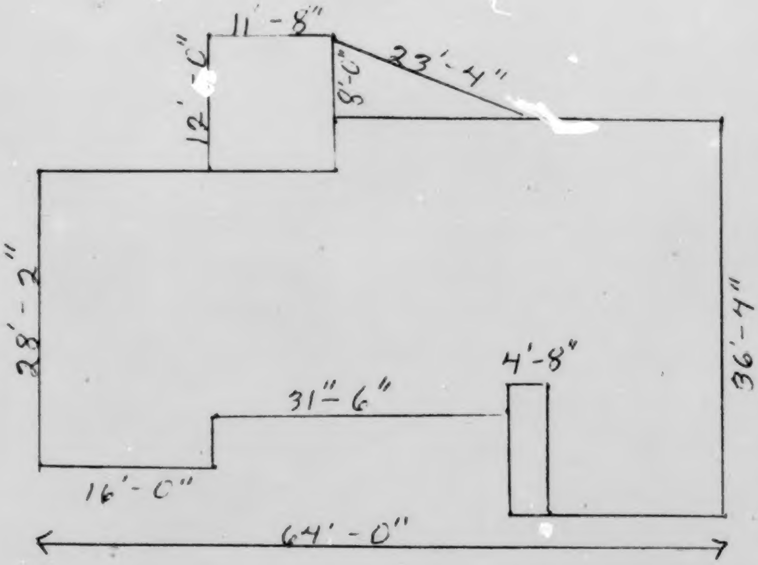


7. Determine the area of this sidewalk.



8. Approximately how many hexagonal tiles 2 in. on each side will be required for a floor 100 ft. long and 38 ft. wide?

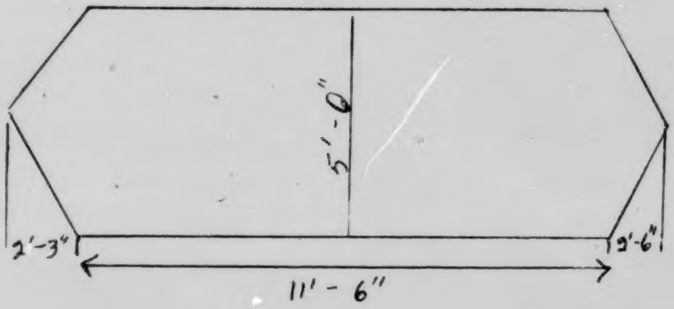
9. Find the total floor area of this house:



10. What is the area of the bottom of a silo if its diameter is 22 ft?

11. The form for a concrete footing is 10 ft. long, 22 in. wide, and 10 in. deep. How many square feet of lumber are there in this form?

12. How many square feet of sheet tin are required to cover the following shape?



GEOMETRY

Construction Worksheet V

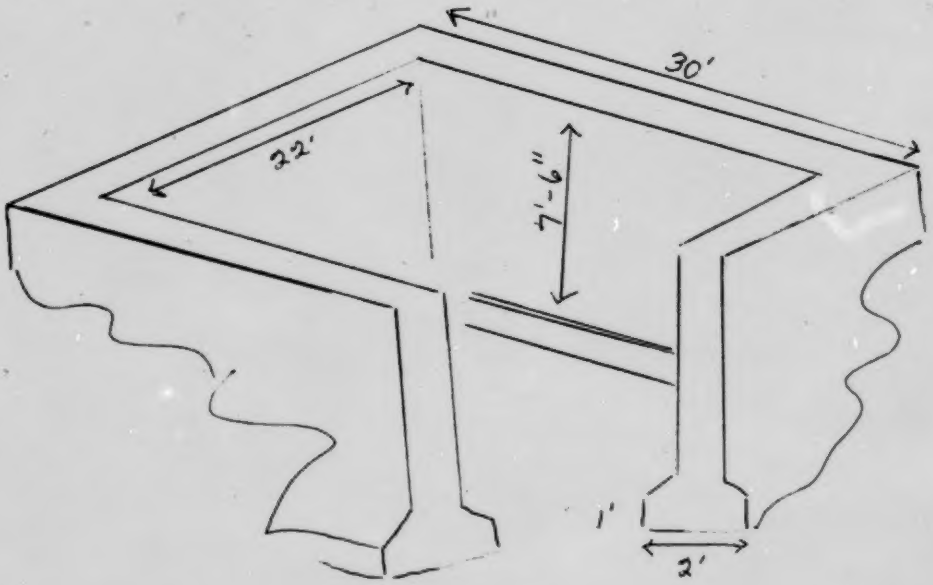
1. The vertical cross section of a concrete dam is a trapezoid of altitude 40 ft. and bases 90 ft. and 20 ft. The dam is 60 ft. long. Find the number of cubic yds. of concrete in the dam.

2. If a cylindrical gallon measure has a radius of 2 in., what is the height? (π = 3.14, 1 gal. = 231 cu. in.)

3. A cylindrical tank lying on level ground has a length of 20 ft. and a diameter of 8 ft. When the tank is filled to a depth of 2 ft., how many cubic feet of liquid does it contain?

4. How much earth remains to be removed from an excavation estimated to contain 800 cu. yd. after 244 cu. yd. 18 cu. ft., and 356 cu. yd. 24 cu. ft. have been removed?

5. A basement foundation is shown. The broad base upon which the wall rests is the footing. The foundation is 30 feet long, 24 feet wide. The wall is 1 foot thick and 7'6" high. The footing is 2 feet wide and 1 foot thick. Find the number of cubic feet in the walls and footing.



6. The cross-section of a steel rod is a regular hexagon 1/2 in. on an edge. Find the weight of a 12 ft. rod made of steel weighing 480 lbs. per cubic foot.

7. How many cubic feet of pine are there in a piece of lumber 15 in. wide, 11 in thick, and 20 ft. long? How many board feet?

8. Find the weight of a cube of maple wood with 8-inch edges, if maple weighs 48 lbs. per cu. ft.

9. What is the capacity of a cubical bin whose edges are 5.5 ft. long?

10. How many gallons of water are there in a tank 75 ft. long and 38 ft. wide if it is filled to a depth of 5 ft.? (There are approximately 7-1/2 gal. in 1 cu. ft.)

398

GEOMETRY

CONSUMER & HOMEMAKING RELATED CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
I. Measurement & Conversion of Units A. Lines B. Angles C. Angle classification D. Angle relations E. Line relation	I. A. Students should identify given units of length, label, approximate, measure by ruler and/or formula, and convert measures from one unit to another. B,C,D. Students should read angles, label, measure, classify and note angle relations to ther angles. E. Students should identify lines as perpendicular, intersecting, parallel or skew.	I. The world of the consumer is quantitive. Daily, we measure, approximate and/or actually measure with instruments, distance, time, weight, cost, etc. These units of measure are then converted to facilitate use.	I. Students will be able to: A. Determine object to be measured B. Select proper available tools C. Approximate measure D. Measure E. Know and/or use table of linear measure F. Change units of measure G. Compute (+, -, x, ÷) with these units H. Find unknown dimensions by formula I. Construct similar figures labeling parts and dimensions.	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani - Measure - Determine 1. distance 2. area 3. volume - Read charts - Prepare charts from data - Read instruments - Read maps - Compute required material and cost for project - Do comparison shopping
II. Identifcation of Polygons A. Triangles B. Quadrilaterals C. Pentagons D. Hexagons E. Octagons F. Decagons G. N-agons	II. Students should identify and classify polygons by the number of sides, equality of sides, type of angles and note relationships in line and angle measurement.	II. In recognizing and classifying polygons, all of the properties and relations between angles and lines are known with identification of the figure.	II. Students will be able to: A. Identify and classify polygons B. Name and measure parts C. Note: 1. The number of sides 2. The length of sides 3. The number of angles 4. The measurement of each angle D. Select that polygon which satisfies their consumer needs. E. Determine: 1. Line segment relationships 2. Angle relationships	
III. Angle & Line Relation	III. Students should identify angles and lines noting measure and relationship.	III. Much of our natural world and most of our man-made world is geometric in form. Recognition and identification of lines and angles facilitates the consumers' use of mediums.	III. Students will be able to: A. Determine lines as 1. Parallel 2. Nonparallel a. perpendicular b. intersecting c. skew B. Identify the angle made by intersecting lines. C. Find line segments as they relate to polygons.	

GEOMETRY

CONSUMER & HOMEMAKING RELATED CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
IV. Congruent and Similar Polygons	IV. Students should identify equality and ratio in measurement as they exist in congruent and similar polygons.	IV. Recognition of similar and congruent geometric figures facilitates the the consumers' daily use of geometric forms.	IV. Students will be able to: A. Identify by shape and form B. Scale drawing C. Read maps D. Use patterns	
V. Ratio & Proportion	V. Students should identify and solve problems involving ratio and proportions.	V. The expansion or reduction of patterns and formulas is a function of ratio and proportion.	V. Students will be able to: A. Expand or reduce 1. Patterns a. maps b. construction parts B. Formulas C. Comparison shopping	
VI. Circles A. Angles B. Line Segments	VI. Students should identify circles, parts of circles, angles and line segments and their measure as formed by segments intersecting with a circle.	VI. Recognition of circles and parts of circles facilitate the consumers' daily use of geometric forms.	VI. Students will be able to: A. Identify and measure 1. Circles 2. Line segments as they relate to circles	
VII. Perimeter A. Measurement B. Formula	VII. Students should determine perimeters of given circles and polygons by measurement and/or formula and convert units.	VII. Perimeter allows the consumer to compute necessary materials to cover given distances.	VII. Students will be able to: A. Find perimeters of geometric figures by: 1. Measure 2. Formula B. Determine material required to cover given distance.	
VIII. Area	VIII. Students should determine areas of given circles, polygons and prisms by measurement and/or formula and convert units.	VIII. Area formulas are used in determining materials required to cover surfaces.	VIII. Students will be able to: A. Compute areas of given polygons B. Determine materials required to cover given measures.	
IX. Volume	IX. Students should determine volume of given solid figures by measurement and/or formula and convert units.	IX. Volume formulas are used in determining capacity and materials to fill that capacity.	IX. Students will be able to: A. Determine capacity of geometric solids B. Determine material necessary to fill the cavity. C. Compute time, weight, cost, etc., involved in capacity problems.	

GEOMETRY

CONSUMER & HOMEMAKING RELATED CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
X. Logic A. Induction B. Deduction C. Proof	X. A. Students should be aware of induction as a form of reasoning, conclude inductively with sufficient given data and be aware of false conclusions resulting from insufficient data. B. Students should be aware of deduction as a form of reasoning, identify properties of given sets, note elements as subsets of given sets, and thereby conclude properties of elements. C. Given terms and theorems, students should make a formal proof noting relationships that exist among elements.	X. Students should solve those consumer problems which lend themselves to geometric forms solvable by measurement and computation by formula.	X. In solving some consumer problems, students will be able to: A. Recognize the geometric figure involved B. Determine needed data C. Measure D. Select suitable formula E. Compute F. Transpose to useable units of measure G. Determine needed 1. Materials 2. Labor 3. Time 4. Cost 5. Etc. using and aware of uses of inductive and deductive reasoning in problem solving. It is hoped that the logic of a proof, wherein each statement is justified by a reason, transfers to the consumers' use.	

GEOMETRY

HOSPITALITY AND RECREATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			
I. Measurement and Conversion of Units	I. Identify given units of length, approximate, measure by ruler and/or formula, note distance and convert measurements from one unit to another.	I. A. Measurement 1. By approximating 2. With ruler 3. By formula and/or computation B. Conversion of units of measure	I. When working with games and audiences, students should be able to measure facilities and equipment required for performance.	Text: Modern Geometry Jurgensen, Donnelly, Dolciani; Houghton-Mifflin Publishers I - II - III: The playing equipment, boards and fields of games can be identified and measured.
II. Identification of Polygons	II. Identify polygons by name, number and length of sides, number and size of angles and those line segments basic to the construction of the given polygon.	II. Identification of geometric configurations by name A. to facilitate communications B. to meet required specifications	II. With entertainment as in sports, games, etc., fields of play and room for participants and audiences must be identified to meet the standards of the game and support the number of audience anticipated.	
III. Angle and Line Relation	III. Classify angles and measure; note lines as being A. Parallel B. Perpendicular C. Intersecting D. Skew	III. A. Angles 1. Classification 2. Measurement of angles B. Lines 1. Parallel 2. Perpendicular 3. Intersecting 4. Skew	III. Same as above	
IV. Congruent and Similar Polygons	IV. Identify polygons as A. Congruent B. Similar 1. Equal Angles 2. Proportional sides	IV. Identification of objects and areas as being A. Equal B. Proportional	IV. With entertainment as in sports, games, etc., equipment and areas must be recognized as equal; if not, differences noted to meet game and performance standards.	
V. Ratio and Proportion	V. Recognize ratios and solve proportions.	V. Ratio and Proportion A. Enlargement B. Reduction	V. The enlargement and reduction of A. Patterns B. Recipes C. Arrangements should be solved through proportions.	
VI. Circles	VI. Identify angles and line segments and their measure as formed by segments intersecting with a circle.	VI. Recognition and determination of the measure of lines and angles determined by intersecting segments with a circle.	VI. As with polygons, fields of play in sports and games, and equipment in circular patterns must be identified and measured to meet the standards of the game.	
VII. Perimeters	VII. Determine the perimeters of given geometrical configurations.	VII. Perimeter	VII - VIII - IX: Perimeters, areas and volumes of recreation areas should be determined so as to fulfill minimal requirements.	
VIII. Areas	VIII. Determine the areas of given geometrical configurations.	VIII. Area		
IX. Volume	IX. Determine the volume of given geometrical configurations.	IX. Volume A. Capacity B. Supplies C. Weight D. Time E. Cost		
X. Logic	X. Be aware of induction as a form of reasoning, conclude inductively given sufficient data and be aware of false conclusion based on insufficient data.	X. Induction and/or experience should be a teacher in planning and strategy in games.	X. From previous experiences needs in social planning as well as strategy in games should be evident.	

GEOMETRY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES AND RESOURCES
I. Measurement & Conversion of Units A. Lines B. Angles C. Angle Classification D. Angle Relation E. Line Relation	I. A. Students should identify given units of length, label, approximate, measure by ruler and/or formula, and convert measures from one unit to another. B.C.D. Students should read angles, label, measure, classify and note angle relations to other angle relations to other angles. E. Students should identify lines as perpendicular, intersecting, parallel or skew.	I. The manufacturing world is a measured one. The cost of producing a part increases with the degree of precision called for. Therefore, no greater precision than is actually required should be specified or used.	I. Students will be able to: A. Determine object to be measured B. Approximate measure C. Determine degree of precision required D. Select proper tools for measurement E. Measure F. Know and/or use table of linear measure G. Change units of measure H. Compute (+, −, x, ÷) with these units I. Find unknown dimensions by formula J. Construct congruent or similar figures labeling parts and dimensions K. Name figure and label parts	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani. Text: Mathematics for Machine Technology, Smith Text: Vocational and Technical Mathematics in Action, Levine - Measure (including use of micrometer and calipers) - Determine 1. distance 2. area 3. volume - Read charts - Prepare charts from data - Read instruments - Read blueprints - Compute required material and cost for project
II. Identification of Polygons A. Triangles B. Quadrilaterals C. Pentagons D. Hexagons E. Octagons F. Decagons G. N-agons	II. Students should identify and classify polygons by the number of sides, equality of sides, type of angles and note relationships in line and note relationships in line and angle measurement.	II. In recognizing and classifying polygons, all of the properties and relations between angles and lines are known with the identification of the figure.	II. Students will be able to: A. Identify and classify polygons B. Name and measure parts C. Note: 1. The number of sides 2. The length of sides 3. The number of angles 4. The measurement of each angle D. Select the polygon which satisfied the manufacturing needs E. Determine 1. Line segment relationships 2. Angle relationship	
III. Angle & Line Relation	III. Students should identify angles and lines, noting measure and relationships.	III. Manufactured products are usually geometric in form. Recognition and identification of lines and angles facilitates the uses of materials, equipment and products.	III. Students will be able to: A. Determine lines as 1. Parallel 2. Non-parallel a. perpendicular b. intersecting c. skew B. Identify the angle made by intersecting lines C. Find line segments as they relate to polygons.	

GEOMETRY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES AND RESOURCES
IV. Congruent & Similar Polygons	IV. Students should identify equality and ratio in measurement as they exist in congruent and similar polygons.	IV. Recognition of similar and congruent geometric figures facilitates the use and recognition of manufactured products.	IV. Students will be able to: A. Identify by shape B. Scale draw C. Read maps D. Use patterns	
V. Ratio & Proportion	V. Students should identify and solve problems involving ratio and proportions.	V. The expansion and reduction of patterns and formulas is a function of ratio and proportion.	V. Students will be able to: A. Expand or reduce 1. Patterns a. maps b. construction parts B. Formulas	
VI. Circles A. Angles B. Line Segments	VI. Students should identify circles, parts of circles, angles and line segments and their measure as formed by segments intersecting with a circle.	VI. Recognition of circles and parts of circles facilitates the manufacture and use of manufactured products.	VI. Students will be able to: A. Identify and measure 1. Circles 2. Line segments as they relate to circles	
VII. Perimeter A. Measurement B. Formula	VII. Students should determine perimeters of given circles and polygons by measurement and/or formula and convert units.	VII. Perimeter allows the manufacturer to compute necessary materials to cover given distances.	VII. Students will be able to: A. Find perimeters of geometric figures by 1. Measure 2. Formula B. Determine material required to cover given distance.	
VIII. Area	VIII. Students should determine areas of given circles, polygons and prisms by measurement and/or formula and convert units.	VIII. Area formulas are used in determining materials required to cover surfaces.	VIII. Students will be able to: A. Compute areas of given polygons B. Determine material required to cover given measures.	
IX. Volume	IX. Students should determine volume of given solid figures by measurement and/or formula and convert units.	IX. Volume formulas are used in determining capacity and materials to fill that capacity.	IX. Students will be able to: A. Determine capacity of geometric solids B. Determine materials necessary to fill the cavity C. Compute time, weight, cost, etc., involved in capacity problems.	

GEOMETRY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
X. Logic A. Induction B. Deduction C. Proof	X. A. Students should be aware of induction as a form of reasoning, conclude inductively with sufficient given data and be aware of false conclusions resulting from insufficient data. B. Students should be aware of deduction as a form of reasoning, identify properties of given sets, note elements as subsets of given sets and thereby conclude properties of elements. C. Given terms and theorems, students should make a formal proof noting relationships that exist among elements.	X. Students should solve those manufacturing problems which lend themselves to geometric forms solvable by measurement and/or computation by formula of given sets, note elements as subsets and thereby conclude properties of elements.	X. In solving manufacturing problems, students will be able to: A. Recognize the geometric figure involved B. Determine needed data C. Measure D. Select suitable formula E. Compute F. Transpose to useable units of measure G. Determine needed 1. Materials 2. Labor 3. Time 4. Cost 5. Etc. using and aware of uses of inductive and deductive reasoning in problem solving.	

GEOMETRY

MARINE SCIENCE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
I. Distance A. Measure B. Reading C. Conversion of units	I. Students should be able to read, measure and convert linear measure directly and indirectly.	I, II. Distance and its measure are important concepts particularly in navigation and where charting of biological and oceanic phenomenon take place. The charting of events demands familiarity with the reading of longitude and latitude to the nearest degree, minute and second.	I. Students will be able to: A. Measure distances B. Read measured distances C. Convert distance measure from one unit to another	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani Text: Student Syllabus, Orange County Marine Science Floating Lab
II. Angles A. Reading 1. Degrees 2. Minutes 3. Seconds B. Measurement 1. Protractor C. Conversion of units D. Construction 1. Instruments 2. Lines a. parallel b. intersecting c. perpendicular	II. Students should read, measure and convert angular measure directly and indirectly, and construct given angles with proper instruments.		II. Students will be able to: A. Read angle measure in degrees, minutes and seconds. B. Measure angles C. Construct given and/or equal angles	- Change units of measure, feet and meters to fathoms by formula and/or conversion table. - Change temperature from C to F by formula and/or conversion table - Read charts - Prepare charts from data - Read meters (meter wheel, Ekman Current Meter, etc.) - Do simple navigation involving two "compass bearings".
III. Geometric Figures A. Plane B. Solid	III. Students should recognize, name, categorize, measure and note properties of geometric figures, plane and solid.	III. The recognition of geometric figures facilitates identification. With the naming of a figure, all of its line and angle relations and properties are known.	III. Students will be able to: A. Identify geometric figures B. Note properties of particular geometric shapes.	
IV. Similar Polygons	IV. Students should identify similar polygons and the resulting equalities and proportions.	IV, V. Blueprints and maps are examples of similar polygons, and the measure of corresponding distances, ratio and proportion.	IV. Students will be able to: A. Identify similar polygons B. Noting: 1. Equal angles 2. Proportional side	
V. Ratio & Proportion	V. Students should solve mixture and scale problems with the use of ratio and proportion.		V. Students will use ratio and proportion in: A. Mapping and conversion of units used B. Solving mixture problems	
VI. Coordinate Geometry A. Plotting of points B. Distance	VI. Students should identify mapping on a rectangular coordinate system, noting angles, distances and shapes.	VI. Coordinate Geometry maps the location of phenomenon and is therefore essential in the study of marine life and its migration.	VI. Students will use the rectangular coordinate system in: A. Mapping B. Charting	

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
VII. Formula A. Perimeter B. Area C. Volume D. Temperature conversion	VII. Students should solve problems dealing with distance, area, capacity and temperature conversion by formula.	VII. Formulas are used in determining size and magnitude of ocean phenomenon.	VII. Students will be able to solve marine associated problems involving distance, area, volume, temperature, pressure, etc. by formula.	
VIII. Inductive & Deductive Reasoning	VIII. Students should be aware of induction and deduction as a form of reasoning, classify elements as subsets of given sets, attributing properties and conclude from sufficient data (being aware of premature judgments resulting from insufficient data).	VIII. Inductive and deductive reasoning.	VIII. Students should be aware of induction and deduction as a form of reasoning, classify elements as subsets of given sets, attributing properties and conclude from sufficient data (being aware of premature judgments resulting from insufficient data).	

GEOMETRY

MARKETING & DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVES	ACTIVITIES & RESOURCES
I. Measurement & Conversion of Units	I. Students should identify given products by count, given units of length, label, measure by ruler, and/or formula and convert from one unit of measure to another.	I. The size, count, product need, packaging, storage and transport of goods necessitates measurement and conversion of these measurements into units more feasible for use.	I. Students should be able to read and tabulate product information to determine: A. Inventory B. Inventory needs 1. Storage 2. Transport 3. Display 4. Pricing 5. Sales Promotion Products should be identified by size. A. Estimated measure B. Actual measurement and sizing (differences in sizing should be noted)	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani; Houghton, Mifflin Publishers. Merchandising Mathematics, Carlo, Murphy; Delmar Publishers
II. Identification of Polygons	II. Students should identify and classify polygons as to the number and measurement of sides and angles. In recognizing and classifying polygons all of the properties and relations between angles and lines are known with the identification of the figure.	II. The marking and/or recording of merchandise is facilitated by recognition of its size and shape as well as the size and shape of the ticket identifying it. The coding of size, color, department, manufacture number, price, etc. are geometrically located on this ticket-polygon.	II. Students should recognize products and tagging by shapes (polygons) and should note recorded, coded information on tickets.	II. A sample board of tickets can be displayed showing: A. Pin ticket B. Button-Slot ticket C. Pressure-Sensitive labels D. String tag printed and punched E. Unit Control String ticket
III. Angle & Line Relation	III. Students should identify angles and their measurement and note lines if A. Parallel B. Perpendicular C. Intersecting D. Skew	III. The terms parallel, perpendicular, intersecting and skew are basic when talking of line, layout design and necessary in communication when referring to placement.	III. Students should identify and define line patterns in advertising, display, transport-routing, etc. as being: A. Parallel B. Perpendicular C. Intersecting D. Skew	III. Students should route a carrier through a maze with prescribed stops finding efficiency in time, distance and costs.
IV. Congruent & Similar Polygons	IV. Students should identify equality and ratio in measurement as they exist in congruent and similar polygons.	IV. Students should recognize congruence in product production within given tolerance levels and similarity in sized products.	IV. Students should recognize given tolerance measurement specifications and sizing requirements.	IV. With precision instruments students should measure units to find if within predetermined tolerance levels.

GEOMETRY

MARKETING & DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVES	ACTIVITIES & RESOURCES
V. Ratio & Proportion	V. The solution of similar polygons uses proportions in finding line segments.	V. Problems involving enlargment and reduction are solved with proportions.	V. Students should use proportions in solving problems involving enlargment and reduction.	
VI. Circles	VI. Students should identify lines and angles as they relate to the circle.	VI. Products involving circles in patterns can be recognized and parts identified.	VI. Products involving circles in patterns can be recognized and parts identified.	
VII. Perimeters VIII. Areas IX. Volume	VII-VIII-IX. Students should find perimeters, areas and volumes of given geometric figures.	VII-VIII-IX. The measurement of a product, the floor-space it occupies, its storage and packaging and its transport involve A. Perimeters B. Areas C. Volumes	VII-VIII-IX. Students should determine: A. Perimeter B. Area C. Volume in the solution of problems involving: A. Advertising (space) B. Display C. Transportation D. Packaging	VII-VII-IX. Chapter 13 & 14 Areas of Polygons and Circles Areas and Volumes of Solids - pp 470-542
X. Logic	X. Students should conclude inductively with sufficient data and be aware of false conclusions particularly resulting from insufficient data.	X. From tabulated data decisions can be made concerning supply and demand.	X. Tabulated data should help in predicting demands of products in: A. Sales B. Production C. Labor	X. Simple problems involving mean, mode and median should illustrate possible predictions in sales.
XI. Construction & Locus	XI. Given a protractor and a straight edge, students should construct basic line and circle relationships.	XI. Line and circle patterns should be recognized and appreciated as basic geometric constuctions.	XI. Product design makes use of line and circle patterns basic in geometric construction.	XI. Students should design a logo for a particular product.

GEOMETRY

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
I. Distance A. Measure B. Reading C. Approximation D. Conversion of units	I. Students should be able to read, measure, approximate, and convert linear measure directly and indirectly.	I. Vehicular characteristics and traffic ways are predetermined and premeasured. The navigator selects his course measuring distances by approximation, indirect measurement and instruments.	I. Students will be able to: A. Measure distance B. Read measured distance C. Approximate distances D. Convert distance measure from one unit to another.	Text: Modern Geometry, Jurgensen, Donnelly, Dolciani Text: Fundamentals of Traffic Engineering, Kell, Homburger Text: The Student Pilot's Flight Manual, Kershner
II. Angles A. Reading 1. Degrees 2. Minutes 3. Seconds B. Measurement of angles 1. Tools C. Conversion of units D. Computation with units E. Construction 1. Instruments 2. Lines a. parallel b. intersecting c. perpendicular	II. Students should be able to determine, read, measure, and convert angular measurement given proper tools.	II. Navigation and the recognition of geometric figures demand knowledge of angles, classification of angles, their measurement and the construction of angles.	II. Students will be able to: A. Read angle measure in degrees, minutes, and seconds. B. Measure angles C. Construct given and/or equal angles D. Locate points on maps given longitude and latitude. E. Name longitude and latitude of positions on map.	- Measure - Determine distance - Change temperature - Read charts - Prepare charts from data - Do simple navigation (wind triangles) - Plan trips - Read maps
III. Geometric Figures A. Plane B. Solid	III. Students should recognize, name, categorize, measure, and note properties of geometric figures, plane and solid.	III. Vehicles, roadways, airways and seaways are geometric in design as are the packagings transported. Familiarity with geometric figures facilitates job responsibilities.	III. Students will be able to: A. Identify geometric figures B. Note properties of particular geometric shapes.	
IV. Congruent Polygons	IV. Students should identify congruent polygons and their equal corresponding parts.	IV, V, VI. Blueprints and maps are examples of congruent and similar polygons, and the measure of corresponding distances, ratio and proportion.	IV. Students will be able to: A. Identify congruent polygons B. Noting 1. Equal sides 2. Equal angles	
V. Similar Polygons	V. Students should identify similar polygons and the resulting equalities and proportions.		V. Students will be able to: A. Identify similar polygons B. Noting 1. Equal angles 2. Proportional sides	

GEOMETRY

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
VI. Ratio & Proportion	VI. Students should solve mixture and scale problems with the use of ratio and proportion.		VI. Students will use ratio and proportion in: A. Mappings B. Graphs C. Solving mixture problems	
VII. Coordinate Geometry	VII. Students should identify mappings on a rectangular coordinate system, noting angles, distances and shapes.	VII. Coordinate Geometry maps phenomenon onto a graph facilitating study.	VII. Students will use the rectangular coordinate system in: A. Mapping B. Charting	
VIII. Evaluation of Formula	VIII. Students should solve problems dealing with distance, area, capacity, weight, speed, direction and temperature by formula.	VIII. Formulas are used in solving problems of direction and magnitude.	VIII. Students will be able to use formulas solving transportation oriented problems involving distance, area, capacity, weight, speed, direction, temperature, etc.	
IX. Inductive & Deductive Reasoning	IX. Students should be aware of induction and deduction as a form of reasoning, conclude inductively with sufficient given data and be aware of false conclusions resulting from insufficient data, identify properties of given sets, note elements as subsets of given sets, and thereby conclude properties of elements.	IX. Students should solve those transportation problems which lend themselves to geometric forms solvable by measurement and computation by formula.	IX. Students should be aware of induction and deduction as a form of reasoning, conclude inductively with sufficient given data and be aware of false conclusions resulting from insifficient data, identify properties of given sets, note elements as subsets of given sets, and thereby conclude properties of elements.	

U. S. HISTORY

CURRICULUM CONCEPT -

CLUSTER MATRIX

Course - U.S. History

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
First Americans															
Euro-Americans	X						X								
Afro-Americans							X								
Revolutionary War														X	
The New Nation	X			X						X					X
War of 1812															
Westward Movement															X
Reform Movements															
Civil War								X							X
Reconstruction															
Industrial Revolution		X	X	X							X				
Immigration	X														
Spanish-American War															
World War One								X			X				
Roaring Twenties		X			X		X			X	X				
Great Depression	X	X			X									X	
New Deal															
World War Two			X	X				X			X			X	

COURSE RELATIONSHIP TO THE GOALS

FOR CAREER EDUCATION IN CALIFORNIA

Course U.S. HISTORY

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.	X	X	X	X	X		X	X		X	X			X	X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.	X	X	X	X	X		X	X		X	X			X	X
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.	X	X	X	X	X		X	X		X	X			X	X
4. Recognize that educational experiences are a part of total career development and preparation.	X	X	X	X	X		X	X		X	X			X	X
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.	X	X	X	X	X			X		X	X			X	X
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.					X										
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.	X	X	X	X	X		X	X		X	X			X	X
8. Gain career orientation to increase exposure to the options available in the world of work.	X	X	X	X	X		X	X		X	X			X	X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.	X	X	X	X	X		X	X		X	X			X	X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.										X					

U.S. HISTORY

Introduction to Agribusiness and Natural Resources

The natural resources of America with its numerous attractions of fertile and free land attracted many settlers from Europe. In those history units infusion of agribusiness and natural resources is applicable as the major occupation of early colonists, settlers, and immigrants. Today agriculture is still a big business in size as well as money. Thirty to forty percent of our labor force is involved in some part of food production, processing, and delivery. In the approach to this unit the student will learn about early agricultural occupations and their importance in United States history, with emphasis on agriculture as a cause of the Great Depression and present legislation which influences the growth and development of this important part of our economy. The student will also project himself into a present agricultural occupation through self-awareness and occupational awareness.

429

U.S. HISTORY

AGRIBUSINESS AND NATURAL RESOURCES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Euro-Americans	I. 1. List five causes of migration to America 2. Match 13 colonies to their founders 3. Match 13 colonies to their reasons for being founded 4. Compare and contrast Puritan society with present society in an essay 5. Recognize different points of view for people of various colonies 6. List three causes of the Salem witch trials 7. Define and give an example in the past and an example in the present of theocracy and scapegoat	1. The "pull factors" of migration and expansion include the following areas: 1) Forestry - forest use - forest protection - fire control and prevention 2) Fisheries & Wildlife - propagation - harvesting - protection - land use 3) Petroleum & Related Products - exploration - cementing - drilling - pumping 4) Productive Agriculture - farmers - ranchers - foremen - managers 5) Service - veterinarian - landscaper - salesman - feed service	1. Write a paragraph about agriculture as a pull factor in migration and settlement in America and the importance of agriculture in our economy today 2. List and briefly describe five jobs within the cluster 3. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awareness Worksheet (Supp. A-10) 4. List three ways to find information about a particular job in the "Career Center" 5. Answer three out of five questions about Agriculture Today" (Supp. #1) 6. Summarize an article from a magazine about agriculture as an occupation 7. Write a paragraph about agriculture as a cause of the Great Depression and how the Agricultural Adjustment Act resolved the problems	1. Text: Episodes in American History The Crucible (Arthur Miller) The Lottery (Shirley Jackson) 2. Outline on "Agriculture Today" (Supp. #1) 3. Collage: (Supp. #2) 4. Extra Credit: Planting a Garden (Supp. #3) 5. Film: Agribusiness (Pathescope Edu. Films) 6. Guest Speakers: Food and Drug Inspector, O.C. Agricultural Extension, Forest Ranger. (Supp. A-2, A-3) 7. Field Trip: Orange County Fair. (Supp. A-2, A-3) 8. Career Exploration Worksheet for one occupation (Supp. A-5) 9. D.O.T. Occupational Exploration Kit Mini Brief Chronical Guidance 10. School Library: non-book material on agriculture 11. Maintain a "Career Notebook"
II. The New Nation	II. 1. List and describe ten acts that contributed to an authority crisis in Colonial America 2. Describe in an essay form reasons why the colonists wanted to leave England and why England did not want the colonies to leave 3. Give five reasons why the Americans went to war with England in 1812 4. Pick any five out of ten territories and describe how and from whom it was acquired			

U.S. HISTORY

AGRIBUSINESS AND NATURAL RESOURCES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
III. Immigration	III.1. Define "push" and "pull" factors and give three examples of each			
	2. Describe in paragraph form the effects of immigration on the labor force			
	3. List the phases of immigration			
	4. Define "melting pot" and the significance of the term today			
IV. Great Depression	IV. 1. List and explain five reasons for the depression of the 1930's			
	2. Describe in paragraph form the human suffering caused by the economic crisis			
	3. List and describe five New Deal measures including the Agricultural Adjustment Act			
	4. Identify New Deal measures that still exist today			

SUPPLEMENT #1

"Agriculture Today"

I. EMPLOYMENT OPPORTUNITIES

A. Increasing for students with agriculture background.

1. Knowledge and skill in plant science, soil science, animal science, farm management and agricultural mechanization.

2. 30-40% of our labor force is engaged in food production, processing, and delivery.

B. Total farm employment will continue to drop as it has in past.

1. 10.5 million employed in agriculture in 1929 as compared to 3.9 million in 1975.

2. Number of farms have decreased from approximately 6 million in 1930 to 3 million in 1974, but acreage has increased from 990 million in 1930 to 1,088 million acres in 1974.

3. Man hours needed to run a farm are less due to highly technical equipment and machinery.

II. INCOME

A. Value of farms have increased.

1. Farms in 1930 were valued at $47,994 million; farms in 1974 were valued at $325,300 million.

B. Breakdown of farm income for 1974 in millions of dollars:

Cotton and cotton seed	$ 3,520
Tobacco	2,077
Food grains	9,091
Oil	11,098
Feed grains and hay	14,700
Vegetables	5,456
Fruits and nuts	3,553
Meat	26,458
Dairy	9,263
Poultry and eggs	6,160

III. HISTORY OF AGRICULTURE

A. Early settlers.

1. Discovery of new fruits, nuts, and corn (maeje)

B. Westward expansion.

1. Problems of farming the paries.
    a. Rough and hard soil
    b. no man power for hire
    c. Harvesting before crop spoiled

2. New inventions make farming easier.
    a. Steel plow
    b. Reaper
    c. Seeder
    d. Thresher
    e. Combine

3. Technological advances improve production
    a. Increased use of fertilizer
    b. Livestock feeds with scientific diets
    c. Pesticides
    d. Improved seeds
    e. Better strains of livestock and poultry

C. Preservation of food

1. Transportation
    a. Chisolm trail
    b. Railroads
    c. Chicago as meat packing center

2. Means of storage
    a. Drying grains, fruits and vegetables
    b. Smoking and salting meat
    c. Alcohol, vinegar and sugar
    d. Refrigeration
    e. Canning

D. Brief histories of the major industries

1. Cereals

2. Baking

3. Meat

4. Dairy

5. Fisheries

6. Poultry and eggs

E. Manufacturing and retailing

1. Types of ownership of stores
    a. Chains
    b. Independents
    c. Cooperatives

2. Business terms
    a. Gross profit
    b. Net profit
    c. Turnover
    d. Loss leaders

3. Advertising
    a. forms
    b. cost

4. Packaging
    a. Purpose
    b. Materials

F. Vocations

1. Types of jobs

2. Advantages of working in this industry

SUPPLEMENT #2

Collage on agricultural ocupations.

1) Collect at least 10 pictures depicting agricultural occupations.
2) Assign a job title to each picture.
3) Be able to discuss what is occuring in each picture and how this person's work relates to the student's life.

SUPPLEMENT #3

Extra Credit: Plant a vegetable or flower garden and give a five minute oral report answering the following questions.

1. In what season did you plant your garden?
2. What soil preparation was made? (fertilizers, roto-tilling, etc.)
3. What seeds were planted?
4. What care did your plants require? (watering, hoeing, spraying, trimming, etc.)
5. How many hours per week did you average?
6. Which plants matured?
7. What vegetables did you consume?
8. What would you estimate these vegetables would have cost you in the market? (pounds x price/lb.)
9. What would you estimate it cost you to grow them? (seeds, fertilizer, spray, etc.)
10. How much did you save by growing your own?
11. Do you feel the savings were worth the time and effort involved? ________________ Explain.
12. What would you do differently next time?
13. Where could you get more information and advice on how to get better results?

U.S. HISTORY

Agribusiness and Natural Resources Quiz - 15 pts.

True/False

____ 1. Maize was the Indian name for corn.

____ 2. One of the problems of farming on the prairies for the early settlers was harvesting the crop before it spoiled.

____ 3. Most of the corn grown in America is consumed by the people of this nation.

____ 4. Most farmers today are involved in some kind of dairy production.

____ 5. The famous Texas longhorns were native to this country.

Essay: Do both - 5 pts. each

1. What were the economic reasons for migration to America? (Be as complete and detailed as possible. Be sure to include both "push" and "pull" factors.)
2. List and briefly describe five jobs connected with agriculture or natural resources.

U.S. HISTORY

Introduction to Business & Office

America was literally founded as a business enterprise by the Plymouth Co. and the London Co. out of England. Most immigrants who came to America came with hopes of bettering their economic condition. Many of them started their own businesses. The purchase of Manhattan Island from the Indians or John Hancock's Revolutionary War ventures could well be the forerunners of today's real estate and insurance business. But modern business as we know it began with the Industrial Revolution and its rationalization of business concepts. With the growth of business, there is a growth of occupations related to that cluster. The Roaring 20's was a time of tremendous growth and the 30's a time of immense change and reorganization. Business is still a dynamic and growing area of the American economy.

U.S. HISTORY

BUSINESS & OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Industrial Revolution	I. 1. Define rationalism and describe the six factors. 2. Describe when & where the Industrial Revolution began. 3. List the 5 reasons why America became the number one industrial nation. 4. List 5 pioneers in the Industrial Revolution. 5. Describe in paragraph form 3 businesses and how they developed. 6. List 10 ways the Industrial Revolution affected the lifestyle of the people.	I. Business and office changes affected and have been affected by those times of greatest national economic growth and economic crisis: 1) Accounting - tax accountant - bookkeeper - mathematician 2) Computer - data-methods analyst - key punch operator - programmer 3) Secretarial - stenographer - legal secretary - court clerk 4) Management - executive - public relations - assistant manager 5) Personnel - interviewer - personnel counselor - personnel clerk 6) Finance - bank teller - bank loan officer - bank auditor 7) Insurance - adjuster - salesman - safety man 8) Real Estate - broker - appraiser - salesman	1. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self Awareness Worksheet (Supp. A-10) 2. List and briefly describe five jobs within the cluster. 3. Fill out the worksheet for Field Trips or Guest Speaker (Supp. A-2, A-3) 4. Participate in an interview as the interviewer or applicant (Supp. A-28). 5. Do a book report on a salesmanship book (Supp. #1). 6. Make up their own simple computer program (Supp. #2). 7. Answer 6 out of 10 questions about business based on the field trip or guest speaker.	1. Test: Episodes in American History The Great Depression Only Yesterday Since Yesterday The Jungle Octopus The Good Years Time-Life Books, 1910-1920, 1920-1930, 1930-1940. The History of American Business & Industry Future Shock 2. Simulation: "Panic" 3. Career Exploration Worksheet for one occupation (Supp. A-5) 4. Mini Brief Occupational Exploration Kit Chronical Guidance 5. Films: "The Incredible Bread Making Machine" "Money on the Land" "FDR: 3rd Term to Pearl Harbor" 6. Guest Speakers: Gus Stein - tax accountant Winnie Borghetti - secretary Jim Serafinni- loan officer Dennis Murphy - insurance salesman Dick Tiffany - real estate broker (Supp. A-2, A-3).
II. Roaring 20's	II. 1. List and explain the causes of the prosperity of the 1920's. 2. Explain the economic situations of the following groups: farmers, bankers, laborers, women, businessmen, and social critics. 3. Match 20 famous people of the era with their significance or achievement. 4. Identify 10 terms that grew out of this era or were peculiar to it. 5. Describe how the growth of business changed the lifestyle of the people.			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:			
III. Great Depression	III. 1. List and explain 5 reasons for the depression of the 1930's. 2. List and describe 5 New Deal measures. 3. Identify New Deal measures that exist today. 4. Describe how business changed as a result of government regulation.	9) Office - clerk, typist - mail clerk - business machine operator		7. Field Trips: Computer Center at G.G.U.S.D. District Office Bank of America Crocker Bank Security Pacific Bank State Farm Insurance Farmer's Insurance Century 21 Real Estate Tiffany Real Estate IBM Trainex (Supp. A-2, A-3) 8. Mock interviews (Supp. A-28) 9. Book report (Supp. #1) 10. Computer programming (Supp. #2)

U.S. HISTORY

Business & Office Curriculum Unit

Supplement #1

Book Report Form

1. Title and author of book.
2. Summary (100 word minimum)
3. What did you learn from the book about sales? (50 word minimum)
4. What did you learn from the book that could be applied to your present job? (50 word minimum. If you do not have a job, apply it to school.)
5. What did you learn from the book that could be applied to some other part of your life? (50 word minimum)

U.S. HISTORY

Business & Office Curriculum Unit

Supplement #2

Outline

Mr. Pines, our computer math teacher, will spend 40 minutes of lecture teaching a class how to make up a simple program. The last 10 minutes of the period, 5 students at random will be chosen to make up a program for the school programmable calculator.

U.S. HISTORY

Introduction to Communication & Media

Much of our history is the history of man's attempt to communicate with his fellow man from cave drawings to satellite transmission. Communication was a factor in man's attempt to master his environment and to conquer his fellow man. Because communication improvements were so much a part of the Industrial Revolution and winning World War Two, I have chosen these portions of American history to present this unit even though it could be appropriate in several others. In addition to the newspaper, telephone, and telegraph as a means of communication, there is an explosion of new careers in the medias of radio and television which are historically new fields or work. Although many of these positions require training or college degress, there are openings for all levels of skills or interests. Through exploration in this field, students will be able to project themselves into a career in communication and media that coordinates with the student's self-awareness.

U.S. HISTORY

COMMUNICATIONS AND MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Industrial Revolution	I. 1. Define rationalism and describe the six factors 2. Describe when and where the Industrial Revolution began 3. List the five reasons why America became the number one industrial nation 4. List five pioneers in the Industrial Revolution 5. Describe in paragraph form the influence of communication on the Industrial Revolution	1. Those people who contributed to increased communications and media during the Industrial Revolution and World War Two are: 1) Journalism - reporter - proof reader - editor 2) Motion Pictures - producer - cameraman - film processor 3) Telephone & Telegraph - cable lay-out man - public program supervisor - traffic chief, radio communications 4) Recording Industry - singer - arranger - dubbing & editing engineer 5) Radio & Television Broadcasting - costumer - sound effects man - light technician	1. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awareness Worksheet (Supp. A-10) 2. List and briefly describe five jobs within the cluster 3. Answer three out of five questions about the history of communication 4. Match five pioneers in communication with their achievements 5. Be able to describe in paragraph form the impact of communication on the Industrial Revolution and the progress and outcome of World War Two	1. Text: Episodes in American History Day of Infamy The Longest Day 2. Films: "Money on the Land" (Allistair Cooke) "Tora, Tora, Tora" "The Longest Day" 3. Field Trips: General Telephone Co. Universal Studios L.A. Times Trainex Ch. 50 TV station (Supp. A-2, A-3) 4. Career Exploration Worksheet (Supp. A-5) 5. Chronical Guidance D.O.T. Mini Brief Occupational Exploration Kit 6. "History of Communication" (Supp. #1) 7. "Job Interview Preparation (Supp. A-23) 8. "How to Handle the Interview" (Supp. A-24) 9. "Personnel Qualification Record" (Supp. A-19) 10. Lecture: "How to Find and Get a Job" (Supp. A-21) 11. "Can You Follow Directions" (Supp. A-9) 12. Mock Interviews
II. World War Two	II. 1. Describe in essay form why the attack on Pearl Harbor was a surprise to the Americans stressing communication as a factor 2. Describe in essay form the planning and execution of D-Day 3. List in order the major events of the war 4. Define the Cold War and describe the events of the following crises: Korea, Middle East, Cuban missiles			

Supplement #1

U.S. HISTORY

History of Communication

I. The Word

1. 1833 Benjamin Day
    a. the "Sun"
    b. 1¢/copy
    c. newsboys
    d. sensationalism
2. 1841 Horace Greeley
    a. the "Tribune"
    b. advertising
3. 1893 Pulitzer's "World" and William Randolph Hearst's "Journal"
    a. comic strips
    b. yellow journalism
4. Magazines - 1900 - "Ladies' Home Journal" - 10 mil copies at 10¢/copy

II. The Image

1. Daguerre and Niepce
    a. camera image
2. 1840 Samuel F.B. Morse
3. 71 daguerreotype galleries in N.Y. by 1850
4. 1860's camera as reporter in Civil War
5. 1880 "noopraxiscope" was first moving picture
6. 1889 George Eastman developed a continuous roll of film
7. Thomas Edison's "kinetoscope"
8. 1907 Nikelodeons
9. 1908 "After Many Years" directed by D.W. Griffith
    a. launched the movie star
        1. Mary Pickford was making $104,000 by 1914
10. Will H. Hays, czar of the film industry, developed strict self-censorship

III. The Sound

1. 1844 Samuel F.B. Morse
    a. 1st telegraph line
2. 1876 Elexander Graham Bell
    a. telephone
3. 1877 Edison
    a. experimenting with the phonograph
4. 1896 Marconi
    a. radio
    b. Conrad as the early disc jockey
    c. broadcasting in 1920's
    d. 1926 Federal Radio Commission
    e. sales boomed even during the depression

IV. The Image & the Sound Together

1. 1923 first crude television by Baird & Jenkins
2. 1939 regular schedule of telecasting
3. 1945 RCA launched its sensitive Image Orthicon tube
4. 1954 color television
5. 1962 transoceanic broadcasts

Communication and Media Quiz - 15 pts.

1. Name five items of factual information you should know before you go in for a job interview.

   a.

   b.

   c.

   d.

   e.

2. Pick out five desirable behavior patterns you should follow in a job interview. Circle your choices.

   Stress your qualifications for the job and your interest in it.

   Be businesslike and brief.

   Mention personal, domestic and financial problems.

   Take the lead in the conversation.

   Ask for specific types of jobs.

   Say "I'll take anything."

   Chew gum.

   Smoke

   Be realistic in discussing wages.

   Greet the personnel interviewer by name and give your own.

   Sit down immediately upon entering the room.

   Always offer to shake hands.

   If you are not hired, give up.

3. List five sources of information about available jobs.

   a.

   b.

   c.

   d.

   e.

452

U.S. HISTORY

Introduction to Construction

Construction careers, unlike other job clusters, offers entry into this field at almost any level of education. A technical area such as Civil Engineering or Architecture will require a college education, but there are numerous other occupations that require only the necessary skills. These skills can be attained in high school shop classes, trade schools, junior college programs, and labor union apprenticeship. Any point in American history would be appropriate to introduce this cluster, as man has always needed shelter. I have chosen Building a Nation, Industrial Revolution, and World War II as points of career infusion. The first unit deals with the westward movement, the influx of immigrants and a growing need for more housing. The second unit also covers a time period when many immigrants were migrating to America and the greater use of machinery was revolutionizing most industries. Post World War II era, also known as the "baby boom", another increase of population produced greater needs for construction.

U.S. HISTORY

CONSTRUCTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
I. The New Nation	Student will be able to: I. 1. List and describe ten acts that contributed to an authority crisis in Colonial America. 2. Describe in an essay form reasons why the colonists wanted to leave England and why England did not want the colonies to leave. 3. Give five reasons why the Americans went to war with England in 1812. 4. Pick any five out of ten territories and describe how and from whom it was acquired.	I. Many different jobs are necessary to build a nation or rebuild a nation after the devastation of war 1. Wood - framing - flooring - roofing 2. Metal - welding - plumbing - pipe fitting 3. Masonry - brick laying - tile working - plastering 4. Electrical - residential wiring - commercial wiring - material distributing 5. Finishing - painting - insulating - floor covering 6. Heavy Equipment - equipment operating - equipment maintaining - material distributing 7. Engineering & Support Services - surveying - estimating - construction drafting	Student will be able to: 1. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awareness Worksheet (Supp. A-10) 2. List and briefly describe five jobs within the cluster. 3. Describe in paragraph form the impact of construction on the early expansion of the nation, the industrial revolution, and W.W. II. 4. Answer 6 out of 10 questions about construction on the unit test. 5. Fill out the Worksheet for Field Trips (Supp. A-2, A-3 6. List 5 construction unions and their qualifications for membership. 7. Describe in paragraph form the building of a house using at least 10 job descriptions in the process. 8. Answer 5 out of 10 questions on the Interview Supplements (Supp A-21, A-23, A-24)	1. Texts: Episodes in American History Day of Infamy The Longest Day The Jungle The Octopus Men to Match My Mountains Bury My Heart at Wounded Knee 2. Films: "Money on the Hand" "Tora, Tora, Tora" "The Longest Day" "The Real West" 3. Field Trips: La Cuesta Homes S & S Construction Broadmoor Homes Sukut Construction Ponderosa Homes Landmark Homes (Supp. A-2, A-3) 4. Guest Speakers: Myron Sukut Richard Hess (Supp. A-2, A-3) 5. Career Exploration Worksheet for one occupation (Supp. A-5) 6. Interview Supplements (Supp. A-21, A-23, A-24) 7. Mock Interviews conducted by work experience personnel.
II. Industrial Revolution	II. 1. Describe when and where the Industrial Revolution began. 2. Define rationalism and describe the six factors. 3. List the five reasons why America became the number one industrial nation. 4. List five pioneers in the Industrial Revolution. 5. Describe in paragraph form the influence of communication on the Industrial Revolution.			
III. World War Two	III. 1. Describe in essay form why the attack on Pearl Harbor was a surprise to the Americans stressing communication as a factor 2. Describe in essay form the planning and execution of D-Day. 3. List in order the major events of the war. 4. Define the Cold War and describe the events of the following crises: Korea, Middle East, and Cuban missles.			

U.S. HISTORY

Introduction to Consumer & Homemaking Related

Historically, the 1920's and 1930's were a time of alternating prosperity and poverty. How American consumers coped with family living concepts such as budgeting and consumer skills during these decades affect our lifestyle and level of economic stability today. Although this unit will cover the traditional homemaking skills such as food preparation and the making of clothing, the major emphasis will not be on the business aspect as much as educating families to be able to make the most of the resources at their command and to enhance individual, family and social well being in the process. The students, as future adult consumers, will be able to project themselves into possible careers in this cluster and become more aware of economic skills necessary to the individual consumer.

U.S. HISTORY

CONSUMER & HOMEMAKING RELATED CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Great Depression	I. 1. List and explain five reasons for the depression of the 1930's 2. Describe in paragraph form the human suffering caused by the economic crisis 3. List and describe five New Deal measures 4. Identify New Deal measures that still exist today	1. Problems faced by people in the 1930's included: 1) Food - food analyst - dietician - food journalist 2) Housing and Household Equipment Specialist - color expert - home service director - home lighting advisor 3) Textiles & Clothing Specialist - cloth tester - fashion displayer - drapery hanger 4) Family Economics & Home Management - researcher in home management - budget consultant - home management journalist 5) Family Relations & Child Development - nursery school teacher - county home demonstration agency - 4H Club agent	1. Complete Career Exploration Worksheet 2. List and briefly describe five jobs within the cluster 3. Create a "family" budget 4. Fill out an income tax form on the basis of the "family" budget 5. Complete comparative shopping lists 6. Plan a week of family meals demonstrating good nutrition 7. "Purchase" a car and household appliance on time and figure the simple interest 8. Plan an outing for the family 9. "Purchase" car insurance and life insurance and be able to describe coverage and factors that affect premiums 10. "Invest" money in the stock market	1. Text: Episodes in American History The Great Depression Only Yesterday Since Yesterday 2. "Marketplace" by Security Pacific Bank 3. Career Exploration Worksheet for one occupation (Supp. A-5 4. Mini Brief Occupational Exploration Kit D.O.T. Chronical Guidance 5. Filmstrip: Consumer Skills 6. "Family" simulation emphasizing comparative shopping (Supp. #1) 7. Collage: Family Budget (Supp. #2)
II. Roaring Twenties	II. 1. List and explain causes of the prosperity of the 1920's 2. Be able to explain the economic situations of the following groups: farmers, bankers, laborers, women, businessmen, and social critics 3. Be able to identify: flappers, KKK, Red Scare, prohibition, bathtub gin, bobbed hair and speakeasies, and give the significance of each 4. Match the following names with their significance: Sacco & Vanzetti, Charles Lindbergh, Babe Ruth, Red Grange, Gertrude Ederle, Bobby Jones, Bill Tilden, Gene Tunney, Jack Dempsey, Al Capone, Henry Ford, and presidents Harding, Coolidge, and Hoover			

Supplement #1

"FAMILY" ASSIGNMENTS

1. Plan a menu for one week for your "family" that reflects good nutrition.
2. Purchase a car for the "family." Describe the price, make, and features of the car and how you would finance it. Figure the simple interest.
3. Purchase an article of clothing for each member of your "family" that is appropriate for the season. Shop the item at three stores before making your purchase and be able to justify your purchase.
4. Plan an outing for your "family" that fits in with your monthly budget. Be as detailed as possible about the cost. Your expenses might include tickets, gas, food and babysitters.
5. Purchase insurance for your "car" based on your own driving record, age, location, etc. Record the name of the company, coverage, and premium.
6. Find a home for your "family". Describe the monthly price and the features of the home. You should describe number of rooms, gas or electric, carpet, drapes, exposure, lot size; or if it is an apartment, type of complex, upstairs or downstairs, garage facilities, etc. Estimate the cost of utilities for one month. Include the address.
7. Purchase a $10,000 life insurance policy for the breadwinner in your "family". Contact at least three companies before making your purchase. Describe benefits of your policy and give the name of the company.
8. Purchase a major appliance on time payment plan. Assume you have $50 to put down on the item. Shop three stores and choose the one that most closely meets your needs in terms of quality of product, service after purchase, and financing you can afford. Describe the finance charges you will have to pay. Figure the simple interest.
9. Invest the remainder of your money, after all budgeted items are paid for, in the stock market. Pick your stock, them "purchase" as many shares as you can. At the end of the month, sell out and determine your net gain or loss.
10. Fill out a projected income tax form based on your "family" income and finances.

Supplement #2

Make a collage depicting those items an average family of four must include in a household budget for one month. Label each picture with an appropriate price and put the total in the lower right hand corner. Be sure you include *all* items necessary for the family to function.

U.S. HISTORY

Consumer Quiz - 15 pts.

Define the following:

1. Deductable

2. Staples

3. Premium

4. Interest

5. Beneficiary

Essay: Do both - 5 pts. each

1. Name five factors that affect the cost of car insurance.

2. What is the interest on a car if the sticker price was $3,500.00 and your monthly payments were $160.00 for two years.
   (Show math)

U.S. HISTORY CURRICULUM UNIT

Introduction to Fine Arts and Humanities

The social, moral and aesthetic values of a culture are always changing. In the context of this belief it would be appropriate to introduce the cluster on Fine Arts & Humanities at any point in history. I have chosen the units on Afro-Americans and Euro-Americans because of the influence of Europe and Africa on our forms of aesthetic expression. I have chosen the unit of the Roaring Twenties as another point of introduction because it was a decade of entertainment and diversion as well as national soul-searching for a troubled post-war generation. Today, the Fine Arts & Humanities offer vocations in which the individual has immense opportunity for creativity and challenge in various fields of aesthetic expression.

U.S. HISTORY

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Afro-Americans	I.1. Identify 10 important leaders in the abolition movement and civil rights mevement. 2. Describe the triangular trade and its effect on colonial economy. 3. Describe the middle passage and list 3 reasons why the mortality rate was so high. 4. Describe what life was like on the plantation for the slave. 5. List technological changes that contributed to the continuance of slavery.	I. Different backgrounds as well as certain time periods have contributed to the growth of American culture: 1. Visual Arts - advertising artist - illustrator - clothes designer - cartoonist - interior decorator - furniture designer - painter - photographer - draftsman - cameraman 2. Performing Arts - choreographer - dancer - playwright - stage electrician - drama coach - actor - conductor - choral director - instrumentalist - piano tuner	1. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awareness Worksheet (Supp. A-10) 2. List and briefly describe 5 jobs within the cluster. 3. List 5 traits important to 3 random jobs chosen from the cluster. 4. Describe in paragraph form some of the contributions of Afro-Americans and Euro-Americans to our culture.	1. Text: Episodes in American History Only Yesterday Time-Life 1920-1930 2. Mini-Brief Occupational Exploration Kit Occupational Library 3. Field Trips: Universal Studios Trainex Bowers Museum - Riley Rhodes Bordeis Architect (Supp. A-2, A-3)
II. Euro-Americans	II.1 List 5 causes of immigration to America. 2. Match 13 colonies to their reasons for being founded. 3. Match 13 colonies to their founders. 4. Compare and contrast Puritan society with present society in an essay. 5. Recognize different points of view for people of various colonies. 6. List 3 causes of the Salem witch trials. 7. Define & Give an example in the present of theocracy and scapegoat.	3. Writing - author - poet - collaborator - lexicographer - critic 4. Architecture - architect - landscape architect - urban planner - school plant consultant - draftsman	5. Match famous authors with their works from the 1920's. 6. Answer more than 50% of the T/F questions on quiz covering either a field trip or guest speaker's lecture. 7 Complete at least one Fine Arts project. (Supp. #1) 8. Complete Worksheet for Guest Speakers & Field Trips (Supp. A-2, A-3), if applicable.	4. Guest Speakers: Dixie Albright - Drama Coach Ron Aberhard - conductor Tom Ringland - choral director Dick Beam - photographer Bill Newby - metal artist Wycliff Bible Translators Huntington Beach, CA Protestant clergyman Roman Catholic priest Rabbi Pres. of Orange County Music Ed. Association (Supp. A-2, A-3) 5. Self-Awareness Test (Supp. A-10) 6. Career Exploration Worksheet for one occupation (Supp. A-5) 7. Pre-Test on occupations (Supp. A-4)

U.S. HISTORY

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
III. Roaring 20's	III.1. List and explain causes of the prosperity. 2. Explain the economic situation of the following groups: farmers, bankers, laborers, women businessmen, and social critics. 3. Identify: flappers, KKK, Red Scare, prohibition, bathtub gin, bobbed hair and speakeasies, and give significance of each. 4. Match the followihg names with their significance: Sacco & Vanzetti, Charles Lindbergh, Babe Ruth, Red Grange, Gertrude Ederle, Bobby Jones, Bill Tilden, Gene Tunney, Jack Dempsey, Al Capone, Henry Ford, and presidents Harding, Coolidge, and Hoover.	5. Language & Linguistics - interpreter - etymologist 6. History & Museums - historians - genealogists - curator - art appraiser - armorer technicians 7. Religion & Theology - clergyman - Protestant - Roman Catholic - rabbi - missionary - Christian Science practitioner		8. Films: "Fashion Merchandising as a Career" - Patricia Stevens Schools "Portrait of a Missioner" Marynoll Film Library. 9. Books: *Babbit*, *Main St.*, *Great Gatsby*, *Flaming Youth*, *This Side of Paradise*, *Great American Tragedy*. 10. Fine Arts Projects (Supp. #1).

Supplement #1

1. Design & sketch 3 outfits for either a male or female.
2. Design & sketch a magazine advertisement for a brand name product.
3. Draw a political cartoon.
4. Coordinate a room with carpet, drapes, floor tile, paint, and wallpaper.
5. Assemble a collage of your own pictures using Afro-Americans as a theme.
6. Paint a picture of early European migration or settlement in America.
7. Write a short story (1000 words) or a poem (20 lines).
8. Present a dramatic reading to class (5 minutes minimum).
9. Design a 3-bedroom home. Include floor plan and exterior.
10. Landscape the front of our school. Include names of bushes and trees.

U.S. HISTORY

Introduction to Health

Due to increasing population and greater emphasis on health care there is a growing need for more health workers to maintain a high level of health for our citizens. Both medicine and the careers allied to it are presented in the health cluster. It would be appropriate to introduce this unit of study at several points in American history since there has always been concern for better health. I have chosen the Civil War, World War I and World War II as appropriate points of infusion because there is always a greater emphasis on saving people's lives during a period of war and its tragic companion: death.

U.S. HISTORY

HEALTH CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Civil War	I. 1. Describe in paragraph form the sectional conflict between the North, South, and West in social, political, and economic terms. 2. List five unanswered questions about Lincoln's assassination. 3. Match ten names and terms with their historical significance. 4. Define five terms relating to the issues of the day.	I. A nation's involvement in war highlights medical problems and promotes health interest: 1) Mental Health - psychiatrist - psychologist - psychometrist 2) Medical & Biological - cytotechnologist - blook bank technologist - electrocardiograph technician 3) Dental - dental hygienist - dental ceramist - dental assistant 4) General Hospital & Medical Office - diet clerk - nursing aide - X-ray clerk 5) Emergency Services - ambulance attendant - ambulance driver - first aid attendant 6) Administration - hospital administrator - admitting officer - executive housekeeper 7) Personal & Community Health Services - school nurse - public health educator - sanitarian 8) Pharmaceutical Science & Services - pharmacist - pharmacy helper	1. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awareness Worksheet (Supp. A-10) 2. List and briefly describe five jobs within the cluster. 3. Answer six out of ten questions about Health on the unit test. 4. Fill out the Worksheet for Field Trips (Supp. A-2, A-3) or the Worksheet for Guest Speakers. 5. Write a resume appropriate for application to a job in this cluster (Supp A-18) 6. Describe in paragraph form the impact of three wars, Civil War and World Wars I and II, on the advancement of medicine. 7. Write a report on the origin and effectiveness of the Red Cross. 8. Write a biography (Supp. #2) on a famous person in medical history, stressing their preparation and advancement in their career. 9. Describe in paragraph form what kinds of abilities and what type of personality would be required to go into the medical profession.	1. Text: Episodes in American History Day of Infamy Longest Day Glory Road Stillness at Appomattox 2. Films: "Tora, Tora, Tora" "The Longest Day" "Careers in Health Services" 3. Field Trips: Katella Hospital Memorial Hospital Harbor General Hospital (Supp. A-2, A-3) 4. Guest Speakers: June Miller - school nurse Debbie Lemmon - technologist Father Clune - "Leprosy in America-the unknown disease" (Supp. A-2, A-3) 5. Career Exploration Worksheet for one occupation (Supp. A-5) 6. Resume (Supp. A-18) 7. Extra Credit Collage: Health in Our Society Today (Supp. #1) 8. Biography Form (Supp. #2)
II. World War I	II. 1. List and explain the causes of World War I. 2. Describe the progress of the war in a fill-in paragraph. 3. Explain the reasons for American involvement and how our entrance affected the war. 4. Match names and terms with their historical significance. 5. Explain the origin and effectiveness of the Red Cross.			
III. World War II	III. 1. Describe in essay form why the attack on Pearl Harbor was a surprise to the Americans. 2. Describe in essay form the planning and execution of D-Day. 3. List in order the major events of the war.			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	4. List five new medical discoveries or techniques used on the battlefield or in field hospitals.	9) Medical Supportive Personnel - prosthetist-orthotist - chiropractor - optometrist - naturopathic doctor - physical therapist		
		10) Medical Professions - M.D. - nurse anesthetist - licensed practical nurse		

Supplement #1

Extra Credit Collage

"Health in America"

Instructions:

1. Put together a collage on posterboard.
2. Number each picture.
3. On a separate sheet of paper, explain each picture. Give any information and facts available to you about your picture. For example: A picture of a person smoking could be used to demonstrate the effects of cigarettes on lung cancer and heart attacks.

U.S. HISTORY

Health Curriculum Unit

Supplement #2

BIOGRAPHY FORM

1. Describe their early childhood and how it affected later life.
2. Describe their career and how the person reacted to success and failures.
3. Why did this person become important in history?
   What contribution did they make?
4. If this person were alive today what would they probably be doing and what would the reactions of others be to them?

U.S. HISTORY

Introduction to Manufacturing

America's Industrial Revolution, World War One or Two, or the 1920's are all appropriate points in U.S. History to introduce the cluster on manufacturing. Manufacturing can be defined as the process of making goods or products by hand or machinery. During the Industrial Revolution this process became more and more mechanized, while the individual craftsmen became more remote. The effects of technology on American society were both advantageous and adverse. While the nation enjoyed the fruits of increased production, inexpensive and available consumer goods, a large portion of the population suffered long, hard working hours in crowded, unsafe factories. Today, the hours and conditions have changed and the products manufactured are more varied and more abundant. The number of people and the types of occupations involved has increased also as our country becomes more industrialized. It is estimated that by 1980, 20 million people will be employed in this field. Through occupational awareness and self-awareness, the student will appreciate the role of manufacturing in history and project himself into a career in this field today.

U.S. HISTORY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES AND RESOURCES
	Student will be able to:		Student will be able to:	
I. Industrial Revolution	I. 1. Define Rationalism and describe the six factors 2. Describe when and where the Industrial Revolution began 3. List the 5 reasons why America became the number one industrial nation 4. List 5 pioneers in the Industrial Revolution 5. Describe the process and impact of the assembly line on the beginning of the Industrial Revolution and today.	1. Those people who contributed to the Industrial Revolution are: 1) Unskilled Workers - machine tender - compounder - skinner 2) Semi-Skilled Workers - heat treater - molder - chemical mixer 3) Skilled Workers - engraver - carpenter - plumber 4) Craftsmen - tool and die maker - master tailor - foreman 5) Technicians - drafting - computer - electronics 6) Engineers - mechanical - chemical - nuclear 7) Scientists - biologist - chemist - physicist	1. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awareness Worksheet (Supp. A-10) 2. List and briefly describe 5 jobs within the cluster 3. Write a paragraph using the 6 staps of Rationalization as applied to an industry of the student's choosing. 4. Answer 3 out of 5 questions about the history of manufacturing. 5. Write a paragraph describing the assembly line technique. 6. Match 5 pioneers in manufacturing with their achievements. 7. Describe the effect of American manufacturing on World War I or World War II. 8. Describe the effect of technological unemployment as a cause of the Great Depression. 9. Describe the effect of manufacturing as a factor of Coolidge prosperity.	1. Text: Episodes in American History The History of American Business & Industry Future Shock The Longest Day The Jungle Only Yesterday Octopus The Good Years Day of Infamy 2. Films: "Money on the Land" "The Incredible Bread Machine" (Supp. A-2, A-3) 3. Field Trips: Monarch Marking Systems A.I.C. Industries Plastic Industries, Inc. Firestone Tire Company (Supp. A-2, A-3) 4. Career Exploration Worksheet for one occupation (Supp. A-5) 5. Chronical Guidance D.O.T. Mini Brief Occupational Exploration Kit 6. Simulation: "Marketplace" by Security Pacific Bank 7. "History of Manufacturing" (Supp. #1) 8. Visit to "Career Center" Vocational Biographies (Supp. A-5)
II. World War I	II. 1. List and explain the causes of World War I 2. Describe the progress of the was in a fill-in paragraph			

U.S. HISTORY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
II. World War I	3. Explain the reasons for American involvement and how our entrance affected the war			
	4. Match names and terms with their significance			
III. Roaring 20's	III.1. List and explain causes of the prosperity of the 1920's			
	2. Be able to explain the economic situations of the following groups: farmers, bankers, laborers, women, businessmen, and social critics			
	3. Be able to identify: flappers, KKK, Red Scare, prohibition, bathtub gin, bobbed hair, speakeasies, assembly line and technological unemployment			
	4. Match the following names with their significance: Sacco & Vanzetti, Charles Lindbergh, Babe Ruth, Red Grange, Gertrude Ederle, Bobby Jones, Bill Tilden, Gene Tunney, Jack Dempsey, Al Capone, Henry Ford, and presidents Harding, Coolidge and Hoover			
IV. World War II	IV.1. Describe in essay form why the attack on Pearl Harbor was a surprise to the Americans			
	2. Describe in essay form the planning & execution of D-Day, stressing the importance of the types of manufacturing necessary to produce the varied equipment			
	3. List in order the major events of the war			
	4. Define the Cold War and describe the events of the following crises: Korea, Middle East, Cuban Missiles			

MANUFACTURING

Supplement #1

"History of Manufacturing Up to the 20th Century"

- I. Business in the New World (1607-1783)
  - A. Early Businesses
    - 1. Virginia Co of London - John Smith
    - 2. "black trade"
    - 3. farm and plantation
    - 4. forest and sea
    - 5. home crafting
    - 6. rum

- II. Home Grown Industries (1783-1820)
  - A. Early Manufacturing
    - 1. Yankee trinkerer
      - a. smiths
      - b. shipbuilders
      - c. tanners
      - d. tailors
      - e. mechanics
  - B. Early Manufacturers
    - 1. Evan's automatic flour mill
    - 2. Eli Whitney's cotton gin
    - 3. Samuel Slater's textile mill
    - 4. Pierre Loriland's tobacco manufacturing
      - a. advertising - 1st wooden Indian
        - trade cards
        - premiums
    - 5. Du Pont's gun powder factory

- III. A Nation in Motion (1815-1850)
  - A. Transportation
    - 1. roads, rivers, canals
      - a. Robert Fulton
      - b. Peter Cooper
      - c. filling up the West
  - B. Institutions
    - 1. N.Y. Stock Exchange
    - 2. Jackson and the Second Bank
    - 3. Martin Van Buren and the Subtreasury System
  - C. Growth of Manufacturing
    - 1. cotton and textiles
    - 2. iron and coal production
    - 3. tooling and the production of metal products

- IV. The Builders (1840-1865)
  - A. Famous Manufacturers and Inventors
    - 1. Andrew Carnegie
    - 2. Cyrus Mc Cormide
    - 3. Cornelius Vanderbilt
    - 4. John D. Rockefeller
    - 5. John Deere
    - 6. Charles Goodyear

480

V. Unbridled Freedom (1865-1890)
  - A. Railroads
    - 1. Jay Gould
    - 2. Jim Frisk
    - 3. Leland Stanford
  - B. Steel
    - 1. Henry Clay Frick
  - C. Beef and Flour
    - 1. J.G. Mc Coy
    - 2. Philip B. Armour
    - 3. Gustavus F. Swift
    - 4. Charles Pillsbury
  - D. Electricity
    - 1. Thomas Edison
    - 2. George Westinghouse

VI. The Time of the Titans (1890-1918)
  - A. The Business Tycoons
    - 1. J.P. Morgan
    - 2. Edward Harriman
    - 3. Jim Hill
    - 4. Andrew Carnegie
    - 5. George Hearst
    - 6. Henry Ford
  - B. Business Institutions
    - 1. Trusts
    - 2. monopolies
    - 3. holding companies
  - C. Opposition to Unbridled Business
    - 1. Sherman Anti Trust Act
      - a. Teddy Roosevelt
    - 2. Unions
      - a. A.F. of L. and Samuel Gompers
      - b. I.W.W.
      - c. Progressivism and Woodrow Wilson

U.S. HISTORY

Manufacturing Quiz - 15 pts.

True/False

____ 1. Pierre Lorilard's wooden Indian was one of the nation's first trade symbols.

____ 2. Our nation's first colonies were founded upon the concepts of religious and political freedom, not as a business venture.

____ 3. Cyrus McCormick was famous for the Standard Oil Company.

____ 4. The expression "the real McCoy" came from the reliable reputation of J.G. McCoy, a buyer for meat packers.

____ 5. A monopoly is a company that controls the market in a particular product.

Essay: Do both - 5 pts. each

1. Describe one job in manufacturing. Include a description of the job, salary, working conditions, required training and opportunity for advancement.
2. Define rationalism and list the six aspects of it. Explain each step in terms of the industry of your choice.

U.S. HISTORY

INTRODUCTION TO MARKETING & DISTRIBUTION

Since one out of every fifteen employed people in the United States is a salesperson, and sales are only a part of the marketing and distribution process; it is probable that more than a few students will enter this job cluster. Manufacturing, construction, public service, in fact, most careers depend upon good marketing and distribution in order to succeed and progress. The flow of goods and services from producer to consumer involves an unlimited variety of exciting jobs. Ingenuity, artistic talent, getting along with people and organizing activities are personal characteristics that can be applied to jobs within this cluster that has become so much a part of the American way of life that the present time is called the Age of Marketing.

U.S. HISTORY

MARKETING AND DISTRIBUTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. The New Nation	I. 1. List five reasons for entering the War of 1812. 2. List five reasons for not entering the War of 1812. 3. Match the listed territories with a country and with a method of acquisition: Texas, Oregon, Louisiana Purchase, West & East Florida, Alaska, Hawaii, Mexican Cession, and Gadsden Purchase.	1. Times of great business growth are times of career expansion in the following areas: (1) Marketing Management - retail store manager - sales manager - advertising manager (2) Research & Analysis - survey worker - tabulator - foreign trade consultant (3) Purchasing - purchasing agent - jobber - broker (4) Sales Promotion & Training - package designer - fashion coordinator - training representative (5) Selling - salesman - dealer - routeman (6) Physical Distribution - warehouseman - inspector - cashier (7) Related Business Services - credit - insurance - finance	1. Complete Career Exploration Worksheet (Supp. A-5) for one job within the cluster that coincides with the Self-Awareness Worksheet (Supp. A-10) 2. Complete a Guest Speaker or Field Trip Worksheet. 3. Pick three jobs in the newspaper classified ads that apply to this cluster. 4. List and briefly describe five jobs within the cluster. 5. Make a collage of products (3-5) and explain how their marketing is designed to sell (Supp. #1) 6. Compile one product's advertising methods and discuss the effectiveness of these forms of marketing in a verbal presentation. 7. Create your own marketing and distribution plan for any product you choose based on Supp. #2 (Supp. #3)	1. Text: *Episodes in American History* *Only Yesterday* *The Good Years* *The Greatest Salesman* *How to Win Friends & Influence People* *The Power of Positive Thinking* *Psycho-Cybernetics* *The Hidden Persuaders* 2. "Marketplace" by Security Pacific Bank. 3. Career Exploration Worksheet for one occupation (Supp. A-5) 4. Mini Brief Occupational Exploration Kit Chronical Guidance 5. Guest Speakers: store owner survey worker fashion coordinator salesman cashier (Supp. A-2, A-3) 6. Field Trips: Vons Trainex Boston Store Maywood Bell Ford (Supp. A-2, A-3) 7. Films: "The Incredible Bread Machine" 8. Collage on Marketing & Distribution (Supp. #1) 9. Marketing & Distribution Plan for Amway (Supp. #2) 10. Extra credit Marketing & Distribution Plan (Supp #3) 11. Book report on one of the above listed books.
II. Roaring 20's	II. 1. List and explain causes of the prosperity of the 1920's. 2. Explain in paragraph form the economic situations of the following groups: farmers, bankers, laborers, women, businessmen, and social critics. 3. Identify the following: flappers, KKK, Red Scare, prohibition, bathtub gin, bobbed hair, speakeasies, assembly line and Technological unemployment. 4. Match the following names with their significance: Sacco & Vanzetti, Charles Lindbergh, Babe Ruth, Red Grange, Gertrude Ederle, Bobby Jones, Bill Tilden, Gene Tunney, Jack Dempsey, Al Capone, Henry Ford, and presidents Harding, Collidge and Hoover. 5. Explain in paragraph form five new products and how they were marketed and distributed.			

U.S. HISTORY

MARKETING & DISTRIBUTION

SUPP. #1

Directions for extra credit collage:

1. Cut out pictures of 3 to 5 products and mount them on posterboard.
2. Under each picture explain how the product is marketed to appeal to the public. (You may wish to refer to Hidden Persuaders for some explanation of the psychology behind sales)
3. For extra credit, you may give this report in front of the class.

48C

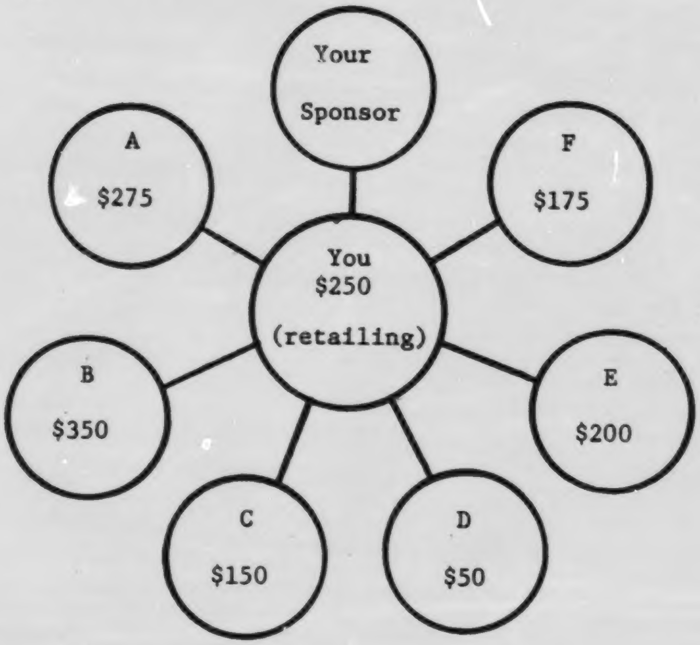
U.S. HISTORY

MARKETING & DISTRIBUTION

Supplement #2

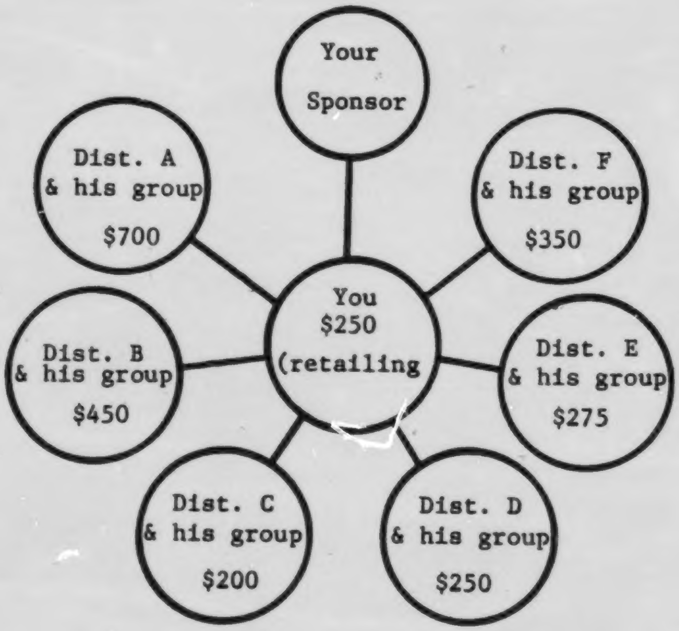
AMWAY PLAN

Example 1


Your Sponsor
A $275
F $175
You $250 (retailing)
B $350
E $200
C $150
D $50

Immediate income on personal sales $250	$ 75
Your total group Business Volume $1,450	
*Performance Bonus you receive (12%)	$174
Performance Bonus you pay out	- $
Performance Bonus you keep	$129
Total monthly gross income	$204

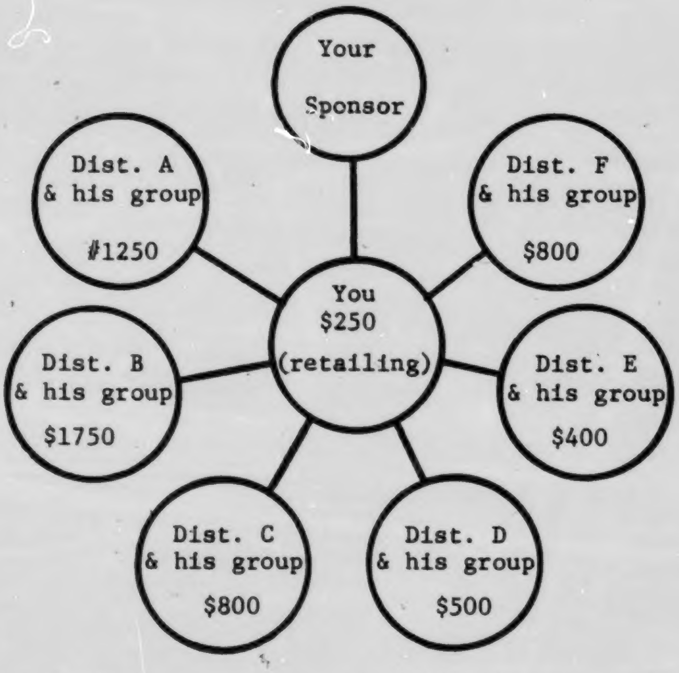
Example 2


Your Sponsor
Dist. A & his group $700
Dist. F & his group $350
You $250 (retailing
Dist. B & his group $450
Dist. E & his group $275
Dist. C & his group $200
Dist. D & his group $250

Supplement #2 (continued)

Immediate income on personnel sales $250	$ 75.00
Your total group business volume $2,475	
*Performance Bonus you receive (15%)	$371.25
Performance Bonus you pay out	- $132.75
Performance Bonus you keep	$238.50
Total monthly gross income	$313.50

Example 3


Your Sponsor
Dist. A & his group #1250
Dist. F & his group $800
You $250 (retailing)
Dist. B & his group $1750
Dist. E & his group $400
Dist. C & his group $800
Dist. D & his group $500

Immediate income on personal sales $250	$ 75.00
Your total group business volume $5,750	
*Performance Bonus you receive (21%)	$1207.50
Performance Bonus you pay out	- $ 610.50
Performance Bonus you keep	$ 597.00
Total Monthly gross income	$ 672.00

* Performance Bonus percentages range from 3% of your Business Volume if your Monthly Point Value is 100 - 299 points (app. dollar amount) to 25% of your Business Volume if your Monthly Point Value is $7,500 or more.

U.S. HISTORY

MARKETING & DISTRIBUTION Supplement #3

Directions: Design your own marketing and distribution plan for any product you choose. Use Supp. #2 and the teacher's presentation as a guideline. You may use text, pictures, diagrams and charts to display your plan. You may want to outline selling techniques, display suggestions, and demonstrations. You might want to provide order forms, product literature, and commission schedules.

U.S. HISTORY

Introduction to Public Service

Those students considering careers in Public Service should be people-oriented as most of these careers deal with serving people on local, state, and federal levels. Benefit gained from Public Service employment is more likely to be personal gain rather than material wealth. Our country's history is filled with historical characters who have contributed their talents to public service; they are largely responsible for our nation as it is today. During times of great crisis our public servants have given of their time and talents beyond expectation. I have chosen the Revolutionary War, the Great Depression, and World War II as appropriate times to infuse career information on Public Service.

U. S. HISTORY

PUBLIC SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Revolutionary War	I. 1. List five reasons the colonists wanted to separate from England 2. List five reasons the British wanted to keep the American colonies 3. List five acts passed by the British that the colonists resented 4. Write a paragraph on how an authority crisis developed in the colonies and how the colonists reacted 5. List five colonial leaders and what abilities helped them to achieve a position in public service	1. Public servants have always played an important role in times of change and growth in our country from the Revolutionary War to World Wars a. The Protectors --fire --police --military b. Teachers --counselors --transportation --supervision c. Government/Politics --city managers --personnel workers --accountants d. Courts/Justice --judge --court clerk --court stenographer e. Utilities/Environment --gas service --sanitary service --urban planners f. Social Work --social workers --rehabilitation counselors --institutional child care technician	1. List and briefly describe five jobs within the cluster 2. Describe in detail, using Supp. A-5, one job preferred by the student that coordinates with the Self-Awarness Worksheet (Supp A-10) 3. Write a paragraph about a famous historical public servant stressing why he was suited to his career 4. Write an essay on the qualities of leadership in public service 5. Fill out worksheet on Field Trip/Guest Speaker 6. Write an essay on "George Washington - What kind of man he really was"	1. Text: Episodes in American History The Causes of War Day of Infamy The Longest Day The Good Years Only Yesterday Since Yesterday The Great Depression 2. Career Exploration Worksheet for one occupation (Supp. A-5) 3. Mini Brief Chronical Guidance Occupational Exploration Kit 4. Field Trip: City of Garden Grove (Supp. A-2, A-3) 5. Guest Speakers: Mayor of Garden Grove City Manager federal judge policeman social worker fireman court stenographer (Supp. A-2, A-3) 6. Extra Credit: Interviewing a public official (Supp #1) 7. Films: "Careers in Government" "Careers in the Community" "Missiles of October" "Tora, Tora, Tora" "The Longest Day" Allistair Cook Series: "The American Revolution" "Roaring 20's" "Weapons of War" 8. Simulation: "Revolution" 9. Extra Credit: Newspaper and magazine articles about people in public service (Supp #2)
II. Great Depression	II. 1. List and explain five reasons for the depression of the 1930's 2. Describe in paragraph form the human suffering caused by the economic crisis 3. List and describe five New Deal measures 4. Identify New Deal measures that exist today 5. Describe actions taken by Hoover & Roosevelt to correct the problems 6. Describe how New Deal measures have increased the number of jobs in public service			
III. World War Two	III. 1. Describe in essay form why the attack on Pearl Harbor was a surprise to the Americans			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	2. Deccribe in essay form the planning and execution of D-Day, stressing the importance of leadership 3. Put in chronological order the major events of World War Two 4. Define the Cold War and describe the American leadership in the events that follow: Korea, Middle East Crisis, Cuban Missile Crisis			10. Extra Credit: Bulletin Board (Supp #3) on Public Service 11. Teaching Unit (Supp #4)

Supplement #1

INTERVIEWING A PUBLIC OFFICIAL

Directions: Ask the following questions and record or take notes on the official's responses. Thank them for the interview after it is completed.

1. What is your name?
2. What is your job title?
3. How did you get this job?
4. What kind of training is necessary?
5. What are your actual duties?
6. What are your hours?
7. What is your salary?
8. What are the opportunities for advancement?
9. What are your personal goals?
10. What satisfaction do you get from this job?
11. What are the advantages and disadvantages of this job?
12. Why did you choose this field of work?
13. Would you choose it again and why?
14. What are the opportunities for young people entering this field?
15. What special talent or interest do you think a young person should have to enter this area?

Supplement #2

EXTRA CREDIT

Directions: Cut out an article from a magazine or newspaper about a person in public service. From what is written in the article, pick out certain characteristics and abilities that are common in these people. If possible, give a job description, advantages or disadvantages, working conditions, salary, or any other pertinent information obtainable from the article.

Supplement #3

EXTRA CREDIT

Directions: Put up a bulletin board about Public Service. Use pictures of public officials and scenes of community service such as police, firemen, and paramedics. Include any magazine or newspaper articles about these careers that you can find. Label each picture according to the career it demonstrates.

Supplement #4

TEACHING UNIT

Purpose: to show a student the preparation necessary for a lesson plan;

to demonstrate the ability required to teach others;

to give experience to those interested in teaching as a career.

Directions: Take any chapter in the present unit and prepare a lesson plan for that chapter. The lesson plan should consist of the following parts:

1. purpose of the lesson (what the students will know or be able to do as a result of your teaching)
2. activities (these might include reading assignments, group reports, worksheets, lectures, films, simulations or class discussions)
3. test (a copy of the unit test, key, and grading scale)

Teach your lesson plan over a three day period. Include those activities you think are most worthwhile and best suited to meet your purpose. Give the test, grade it and figure the number of A's, B's, C's, D's, and F's in the class.

U.S. HISTORY

Introduction to Transportation

Transportation is necessary for the survival of any economy; as technology develops; more means of transportation, the country grows in size and complexity. America's westward expansion from the end of the Revolutionary War to the Civil War is a period when transportation was a vital factor in the growth of the country and the economy. Today it is still a field which offers varied and challenging career opportunities as it did during the physical expansion period of the United States. Through self-awareness, occupational awareness, and regular course content, the student will appreciate the role of transportation in history, the economy today, and the possibilities for the future.

U.S. HISTORY

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
I. The New Nation	Students will be able to: I. 1. List 5 reasons for enter- the War of 1812 2. List 5 reasons for not entering the War of 1812 3. Match the listed territories with a country and with a method of acquisition. (Texas, Oregon Country, Louisiana Purchase, West and East Florida, Alaska, Hawaii, Cession, and Gadsden Purchase.)	1. Means of transport are: 1) Water Transport - ship captain - radio officer - ship's crew - ticket agent - ward personnel 2) Highway Transport - driver - maintenance and repair personnel - dispatcher - service station attendant 3) Rail Transport - engineer - conductor - train dispatcher - towerman 4) Airborne Transport - pilot - stewardess - air traffic 5) Pipeline Transport - gauger - line walker - pumpman - foreman, pipelines	Students will be able to: 1. Match 10 early modes of transportation with their inventors. 2. Write a paragraph explaining three effects of the railroad on society and three effects of the airplane on society. 3. List and briefly describe five jobs within the cluster 4. Complete Career Exploration Worksheet (Supp. A-5) for one job within the cluster that coincides with the Self-Awareness Worksheet (Supp. A-10) 5. Pick 3 jobs in the newspaper that apply to this cluster 6. Summarize an aritcle from a magazine about transportation as an occupation 7. Describe in paragraph form the effect of transportation as a factor in the War of 1812 and the Civil War	1. Text: Episodes in American History (Burns) Future Shock (Alvin Toppler) Simulation: War of 1812 2. Outline "History of Transportation in America from the Covered Wagon to the Jet Age" (Supp. #1) 3. "Future Transport" (Supp. #2) 4. Library Trip (Supp. A-6) "Transportation Today" 5. Newspaper Ads (Supp. A-12) 6. Films: Transportation (Pathescope Edu. Films #711) - Gone West - Domesticating a Wilderness 7. Guest Speakers: Airline stewardess Harbor Master (Supp. A-2, A-3) 8. Field Trips: Orange County Airport Port of Los Angeles (Supp. A-2, A-3) 9. Career Exploration Worksheet for one occupation (Supp. A-5) 10. D.O.T. Mini Brief Chronical Guidance Occupational Exploration Kit
II. Westward Movement	II. 1. Describe in paragraph form three means of transportation and their role in developing the west. 2. Trace the route of the typical immigrant moving westward 3. Describe in paragraph form the effect of the transcontinental railroad on farmers, businessmen, and Indians.			
III. Civil War	III.1. Describe in paragraph form the sectional conflict between the north, south, and west in terms of slavery, tariff, national bank, sale of western land, and internal improvements 2. List five unanswered questions about Lincoln's assassination 3. Match ten names and terms with their historical significance			

HISTORY OF TRANSPORTATION

Supplement #1

I. Early Transportation (Colonial to Civil War)
  A. Water Transport
    1. Indian Canoes
    2. boats
      a. Fishermen, whalers, traders
    3. flat boats
    4. steamboats
      a. Robert Fulton
      b. John Fitch
      c. river steamers
    5. canal boats
      a. Erie Canal
    6. sailing ships
      a. clippers
      b. schooners
  B. Land Transport
    1. Carts, coaches, carriages, ox carts
    2. sleighs
    3. stage coach
    4. covered wagons
      a. Connestogas

II. Comming of the Railroad
  A. early forms
    1. sailor, De Witt Clinton, Tom Thumb
  B. Transcontinental railroad
    1. Central Pacific
    2. Union Pacific
    3. importance of railroad in settling West
    4. importance of the railroad in the Civil War
  C. streetcars, trolleycards, elevated railway, subways

III. 20th Century Transport
  A. Automobiles
    1. early forms
      a. Henry Ford and the "Tin Lizzie" and Model T
  B. Ocean liners and submarines
    1. steam and atomic energy
  C. Airplanes
    1. early forms
      a. Wright brothers
      b. Charles Lindbergh
      c. importance of the plane in WWII
  D. Jobs available in present day transportation
    1. pilot
    2. stewardess
    3. air traffic controller
    4. engineer
    5. conductor
    6. truck driver
    7. dispatcher
    8. radio officer
    9. ticker agent
    10. pipeline foremen

Supp. #2

Future Transport

1. Design a means of transportation for the future:

2. Describe how it works: (what kind of fuel it uses, how fast does it go, how does it start and stop, what distance can it cover, how many people or how many pounds of goods can it convey, what does it cost, of what materials is it made, etc.)

____

____

____

____

____

____

____

____

____

____

____

3. Name at least 5 jobs this new transport would generate: (possibilities would be drivers, attendants, mechanics or ticket sellers.)

______________________ ______________________

______________________ ______________________

____

Supp. #3

1. List 3 sources of career information or job opportunities you found at the school library.

____

____

____

2. What kind of information did you find in each one?

____

____

____

3. Would you be able to find this information from a public library? __________

Any other public places? ____________ List them ______________________

____

____

Any other private places? ___________ List them ______________________

____

____

4. Do any of these places charge you or the employer a fee for information about a job or assistance in securing one?________________

List them ___________________________

____

____

5. What are the advantages and disadvantages of an employment agency that charges a fee for securing a job for you?

Advantages	Disadvantages
______________________________	______________________________
______________________________	______________________________
______________________________	______________________________

U.S. HISTORY

Transportation Quiz - 15 pts.

Matching:

1. Henry Ford
2. Robert Fulton
3. De Witt Clinton
4. Wright Brothers
5. Central Pacific

a. Tom Thumb locomotive

b. airplane

c. Model T automobile

d. Used mostly Irish labor; fought off Indians

e. steamboats

f. Used mostly Chinese labor; fought the Rockies

Essay: Do both - 5 pts. each

1. Describe the growth of transcontinental railroads and its effect on farmers, businessmen, and Indians.
2. Describe how the north, south, and west felt about internal improvements and transporation routes in the decade preceeding the Civil War.

CIVICS

CURRICULUM CONCEPT

CLUSTER MATRIX

Course CIVICS

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Syndicated News Service		X	X												
United States Congress		X				X	X	X					X		
California Executive													X		
California Legislature													X		
California Judiciary													X		
United States Presidency															X
Government of U.S.S.R.			X				X		X						
Totalitarianism							X							X	

COURSE RELATIONSHIP TO THE GOALS
FOR CAREER EDUCATION IN CALIFORNIA

Course CIVICS

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.			X				X	X						X	X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.			X				X	X						X	X
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.			X				X	X						X	X
4. Recognize that educational experiences are a part of total career development and preparation.			X				X	X						X	X
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.															
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.															
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.			X				X	X						X	X
8. Gain career orientation to increase exposure to the options available in the world of work.			X				X	X						X	X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.			X				X	X						X	X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.															

CIVICS

COMMUNICATIONS AND MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Syndicated News Service	I. 1. Define Syndicated News Service. 2. Identify U.P.I., A.P., N.E.A., Reuters News Service. 3. Explain the news reporting role of syndicated news services	1. Journalism - Reporters - Foreign correspondent - Feature reporter - Copy reader - Columnist - Editorial writer - Critic - Editors - Circulation and distribution personnel - Advertising personnel	1. Define: syndicated news service, editorial, Associated Press, United Press International, and Reuters News Service.	1. Text: Magruder's American Government
II. Concepts: Editorial, By-line News Stories, Syndicated Feature Articles	II. 1. Define concepts. 2. Collect examples from local newspapers of: an editorial, a syndicated editorial, a by-line story, and at least ten different syndicated feature articles.	2. Telephone and Telegraph - Engineers - Special Service representatives - Administrators - Managers - Motor Vehicle maintenance - Operators - Sales personnel - Clerks - Linemen - Repairmen	2. Recognize the significance of the Nobel Prizes and the Pulitzer Prizes.	2. Resource Speakers - Syndicate Editor from the Los Angeles Times - Sports Editor from the Orange County Register - Drama teacher from Pacifica High School - Representative from Pacific Telephone
III. Reuters, Nobel, and Pulitzer	III. Students will research "The Big Three" in the library, and then they will write extemporaneously on each subject.	3. Motion Pictures - Producers & directors - Art production personnel - Music production personnel - Writing production personnel - Sound production personnel - Camera and lighting personnel	3. Manifest appreciation for punctuality and meeting deadlines.	3. Students cut out newspaper articles which represent the concepts presented in class
		4. Recording Industry - Instrumental musician - Singers - Composer & lyricist - Sound engineer	4. Demonstrate a high recognition factor of the concepts presented in this lesson through actual examples of each concept from local newspapers.	4. Take classes to media center and have audio-visual coordinator give orientation
		5. Radio & Television Broadcasting - Announcer - Cameraman - Audio operator - Video recording personnel - Supportive personnel	5. Maintain a careers notebook.	5. Field trips: - Los Angeles Times newspaper - Orange County Register newspaper - Offices for the Pacific Telephone Company - Universal Studios - NBC News Room
				6. Movies: - Television - Byline - Communication

CIVICS

FINE ARTS AND HUMANITIES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. U.S.S.R.	I. A. Spell out the proper name for U.S.S.R. B. Explain why the U.S.S.R. is commonly referred to as Russia.	I. A. Occupations in the visual arts: - Commercial Artists and Designers - Painter & Sculptor - Photographer - Interior Decorator and Designer	I. Amplify the thesis that arts and humanities reflect the values and government of a society.	I. Text: Magruder's American Government II. Supplemental books: - Animal Farm - 1984 - Anthem - Brave New World - Lord of the Flies
II. Marx, Lenin, Stalin, and Trotski	II. A. Relate the role and ideas for each of the leaders of Communism. B. Define the following terms: bourgeois, proletariat, socialism, capitalism, communism, Octoberists, Bolsheviks, and classeless society.	B. Occupations in the Performing Arts: - Musician - Composer - Actor - Dancer - Choreographer	II. Logically demonstrate the differences between arts and humanities in an open society with that of a closed society. III. Give examples of propaganda as it is represented in totalitarian societies.	III. Videotape: - Communism: Russia, 1917 - 1977 - K.G.B. IV. Movies: - Stalin
III. Russian Government	III. A. Enumerate the hierarchy of the Russian government. B. Identify and briefly explain each of the levels in the governmental hierarchy.	C. Occupations in Writing: - Literary Writer - Writer for Television and Radio - Editor - Journalist		
IV. The Communist Party	IV. A. Cite that only 6% of all Russians belong to the Communist Party. B. Enumerate the hierarchy of the party apparatus in Russia. C. Identify and briefly explain each of the levels in the party hierarchy. D. Give evidence that they understand how people qualify for membership in the Communist Party. E. Relate the special privileges and advantages that are inherent in party membership.	D. Architecture: - Architect - Draftsman E. Religion - Clergy - Religious Music and Education F. Language and Linguistics: - Interpreter - Linguist G. History & Museums: - Historian - Archivist - Museum Director		
V. Totalitarianism	V. A. Define and present examples of totalitarianism as it has existed in history and in the present day world.			

CIVICS

HEALTH OCCUPATIONS CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. United States House of Representatives	I. 1. Distinguish between a unicameral and bicameral legislature. 2. Explain how seniority is assigned to each member of Congress. 3. Explain how seniority equals power. 4. Elaborate upon the subject of reapportionment and its relationship to the census and the number of constituents a representative has. 5. Identify the leaders in the House of Representatives in terms of responsibilities of each office. 6. List the qualifications necessary to be elected to the House of Representatives. 7. List ten powers of Congress. 8. Explain the "Elastic Clause."	I. Medicare, Medicaid, and dramatic, revolutionary changes in the health and medical fields have created new opportunities for today's young people entering into the job market. 1) Mental Health - Psychiatrist - Psychologist - Psychometrist 2) Medical Services - Electrocardiograph technician - Electroencephalograph technician - Radiologic technician - X Ray technologist - Medical laboratory assistant - Registered nurse 3) Dentistry - Dentist - Dental hygienist - Dental assistant - Dental laboratory technician 4) General Hospital - Hospital administrator - Hospital clerks - Diet clerk - Nursing aide - Receptionist 5) Medical Emergency Services - Ambulance driver - Ambulance attendant - Paramedics	1. Explain job seniority as it relates to job advancement and job security. 2. Maintain a separate notebook devoted to health career information. 3. List and discuss at least ten health occupations which they now understand as a direct result of this lesson. 4. Chart the following criteria for the listed health careers: prerequisite training, salary incentive, seniority rights, job security, job satisfaction, and pension plan.	1. Text: Magruder's American Government 2. Speakers: - School nurse - School District psychometrist - School cafeteria manager - Psychiatrist - Dental assistant 3. Field Trips - Hospital - Free Clinic - Public Health Department 4. Students will volunteer to make class reports based upon personal interviews with people they know that work in one of the occupations listed in this job cluster; such as a dental assistant, nurse, dietician, receptionist, pharmacist, etc. 5. Introduce students to the variety of careers available to them in this area by presenting and discussing the filmstrip "Careers in Health Services" which is prepared by Pathescope Educational Films, Inc. 6. Use school's portable TV camera and recorder and video on site some of the enumerated health occupations.
II. United States Senate	II. 1. Tell how many representatives are in each house of Congress and explain why we have this distribution. 2. Explain the impeachment process and consequences as it is exercised by each house in Congress. 3. Identify the officers in the Senate and give their responsibilities.			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	4. Amplify and explain the staggered system in the U.S. Senate and differentiate between Senior and Junior Senators.	6) Community Health Services - School nurse - Sanitarian - Community health officer		
	5. Tell how vacancies are filled in each house of Congress.	7) Pharmaceutical Services - Pharmacist		
	6. Show how filibusters are effective and used only in the U.S. Senate.	8) Professional Support Personnel - Dietitian - Audiometrist - Optometrist - Podiatrist		
	7. Give the pro and con arguments for having the committee system in Congress.	9) Medical Professions - Medical doctor - Office nurse		

CIVICS

PUBLIC SERVICES CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES AND RESOURCES
	Student will be able to:		Student will be able to:	
I. California Executive	I.1. Explain California's "plural executive" system. 2. Identify the duties, powers, and responsibilities for each of the five elected top state executives. 3. List three qualifications necessary to hold an executive position in the government of California--age, citizenship and residency. 4. Discern the difference between the governor's "item veto" and the president's "blanket veto". 5. Lucidly explain the basic role of the executive branch. 6. Differentiate between civil service jobs and politically appointed jobs. 7. Establish the identity of a government administrator from a government regulator.	I. A vast multitude of executives and support personnel contribute to provide services which the public both needs and expects to have from the three levels of state government: state level, county level, and city level. 1. Administration and Regulatory Agencies . City managers . Accountants . Engineers . Personnel Workers . Public Relations Workers . Regulatory Services 2. Urban Development . Urban Planners . Environmental Scientists . Social Scientists . Engineering . Draftsmen . Programmers . Landscape Architects . File Clerks . Office Machine Operators 3. Protective Services . Law Enforcement . City & County Inspectors . Fire Protection 4. Education . Teachers & Counselors . Supervisors . Transportation . Extension Service 5. Public Utilities . Water Service . Sanitation Service . Gas & Electric Service 6. Parks & Recreation . Supervisors . Planners . Activity Staff	1. Construct a "line-and-staff" graphic using Pacifica High School as a model. 2. Describe the advantages of civil service work in terms of salary, pension, job security, and career advancement. 3. List and discuss at least ten government jobs which they have become acquainted with as a result of this study. 4. Make a scrapbook of news articles which identify state government officials and their corresponding state jobs. 5. Select a particular public service job and write a paper on the prerequisites necessary to qualify for such a position, and discuss the advantages of working in this field of endeavor. 6. Select membership on one of several designated committees Each committee will write to a state executive requesting literature and/or information regarding the correspondent's duties and responsibilities. Each committee will then give an oral presentation on their findings. 7. Maintain a separate notebook devoted to career lecture notes, ditto information sheets, questionnaires, etc. Students will organize their notebooks into divisions corresponding to the job cluster unit under study.	1. Text: Magruder's American Government California's Legislature, 1977 2. Filmstrip Kit: Careers in Government Service 3. Field Trips: Garden Grove City Hall Westminster Municipal Court Santa Ana County Office Building 4. Guest Speakers: Attorney-at-Law Legal secretary Assistant Public Defender Municipal Court Judge Counselor from Juvenile Hall Representative from County Social Services Dept. Assistant County Clerk 5. Careers notebook 6. Develop a news article scrapbook. 7. Produce a "line-staff" schematic model of the Pacifica High School supervisors and staff.
II. California Legislative	II.1. Identify the number of State Assemblymen and State Senators, and be able to tell the salary and fringe benefits earned by the state legislators; especially their per diem allowance. 2. Identify the terms for each house of the state legislature and be able to discuss the job security of each. 3. Identify the major officers and their election for each house. 4. Explain the work of the state legislature.			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES AND RESOURCES
	Student will be able to:			
III. California Judiciary	III. 1. List the four levels of state courts in California and delineate the legal responsibilities of each. 2. Explain why most Californians will have a personal experience with either the Justice Court or the Municipal Court. 3. Explain the jury duty selection process.			

CIVICS

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Qualifications for Presidency	I. 1. List the three constitutional requirements necessary to become President. 2. Explain the need for each President to "learn on the job."	1. Highway Transportation - School bus drivers - RTD bus drivers - Truck drivers - Repair & maintenance - Dispatching - Supervision - Traffic management - Service station operation - Baggage handling	1. Use the yellow pages of a telephone directory and list the names and addresses of local businesses which relate to job opportunities in the transportation cluster.	1. Text: Magruder's American Government 2. Resource speakers: - Garden Grove Unified School District Supervisor of bus transportion - Airline stewardess - Speaker from Orange County Rapid Transit District
II. Electoral College	II. 1. Demonstrate a competent understanding of how electors, and not the American people, elect the President. 2. Manifest knowledge of selecting a President and Vice President in Congress when the Electoral College breaks down.	2. Rail Transportation - Train crew - Sales - Passenger service - Freight handling - Clerical - Repair & maintenance	2. Write to personnel offices of airlines, shipping lines, etc., to secure brochures and other information regarding occupations. 3. Research in the school library one of the occupations listed in the transportation cluster.	3. Field Trips: - School District Bus Terminal - Santa Ana Railroad Station - Orange County Airport - Port of Los Angeles
III. Powers and Duties of the President	III. 1. Enumerate four duties and powers delegated to the President by the U.S. Constitution. 2. Articulate upon the Presidential Cabinet system, especially in regards to the Department of Transportation.	3. Air Transportation - Flight crew - Ticket sales - Clerical & office - Supervision - Air traffic control - Stewardess 4. Water Transportation - Wharf personnel - Ship crews - Passenger shipping - Freight shipping - Container handling 5. Pipeline Transportation - Station engineering - Supervision - Maintenance - Clerical & office	4. Define terms such as: - hierarchy - director - supervisor - departmentalization - bureaucracy 5. Maintain a careers notebook. 6. Make a collage depicting occupations from the cluster. 7. Write an extemporaneous paper on the transportation jobs students remember seeing at Disneyland.	4. Research in public and school libraries. 5. Students bring telephone yellow pages directory to use in class. 6. Make a collage of pictures from newspapers and magazines depicting the myriad occupations in this curriculum unit. 7. Movies: - White House-Past and Present - The Nominating Process 8. Videocassettes - Powers of the Presidency - President of the United States: Too Much Power?

SENIOR MATH

CURRICULUM CONCEPT

CLUSTER MATRIX

Course SENIOR MATH

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Fundamental Operations Whole no's Decimals Fractions		X			X					X	X		X		
Application - Ratio, Proportion & Percent		X			X					X	X		X		
Working With the Metric System					X					X	X		X		
Application - Financial		X			X					X	X		X		
Investments		X			X					X	X				
Purchasing		X			X					X	X				
Comparison Shopping		X			X					X	X				

COURSE RELATIONSHIP TO THE GOALS
FOR CAREER EDUCATION IN CALIFORNIA

Course SENIOR MATH

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.		X			X					X	X		X		
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.															
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.		X			X					X	X		X		
4. Recognize that educational experiences are a part of total career development and preparation.		X			X					X	X		X		
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.										X	X				
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.										X					
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.		X			X					X	X		X		
8. Gain career orientation to increase exposure to the options available in the world of work.		X			X					X	X		X		
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.		X			X					X	X		X		
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.		X			X					X	X		X		

SENIOR MATH

BUSINESS & OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Fundamental Operations with whole numbers, decimals, and fractions	I. Review computational skills involving whole numbers, decimals, and fractions.	I. Gain career awareness in Business & Office occupations which include: . Accounting . Computer . Secretarial Science . Management . Personnel . Finance-Insurance-Real Estate . Office (clerical)	I. Evaluate percentage problems, noting type, computation, and comparison, given maximum benefits.	I. Textbook - Math for Daily Living, Lewis Chap. 1: Automobile Ownership Chap. 4: Personal Income Chap. 6: Banking Chap. 8: Small Loans Chap.10: Insurance Math in Life - Bolster & Woodburn Text pp. 226 & 227 Business & Consumer Math, Snake Text pp 160, 124, 201, 373
II. Application - Ratio, Proportions and Percents	II. Compute the three types of percent problems.	II. Business - Application . Discounts . Promissory Notes - Bank Discounts . Commissions . Profit & Loss . Balance Sheet - Profit & Loss Statements . Payroll . Invoices . Inventories & Sales Summaries . Simple & Compound Interest . Insurance . life . casualty . medical	II. Recognize and identify the basic concepts of credit and how to use it wisely, and to avoid its dangers and pitfalls.	II. Application of skills with career related problems from text/supplemental materials
III. Application - Financial A. Personal Income 1. Salary 2. Piecework 3. Commission B. Deductions 1. Federal Income Tax 2. Social Security 3. State Tax 4. State Disability 5. Union Dues C. Banking 1. Checking Accounts 2. Savings 3. I.R.A. programs 4. Loans D. Budgets E. Insurance 1. Life 2. Disability 3. Automobile 4. Unemployment 5. Health F. Loans 1. Finance Company 2. Banks 3. Credit Union	III. Compute the three types of personal income: A. Skills 1. Straight time & overtime wages 2. Various types of commission 3. Piecework B. Compute the following deductions with the use of tables 1. Federal Income Tax a. weekly, monthly and yearly deductions 2. Social Security a. weekly and monthly deductions C. Compute Banking Problems to include: 1. Balance checkbooks 2. Reconciliation Statement 3. Simple and compound interest with the use of tables D. Develop the skills necessary to draw up a workable budget E. Compute insurance premiums with the use of tables F. Compute small loans with the use of tables	III. Solving Investment Problems	III. Recognize, identify and compute math problems that will help students to manage their own personal business affairs with confidence.	III. Films: Insurance-Banking, Aetna Insurance Co.
IV. Investments A. Real Estate	IV. Evaluate given formula A. Formula involving percents 1. $I = Prt$ 2. $A = P + Prt$ 3. $P = rb$	IV. As a consumer, a person is faced continually with making decisions about the purchase and use of goods & services.	IV. Recognize the services available through banks and how to make wise utilization of these services for transmitting savings, investing and borrowing money.	IV. Speakers 1. Casualty Insurance salesperson 2. Banking services 3. Income Tax advisor
V. Purchasing A. Credit Cards B. Installment Buying	V. Compute small loans with the use of tables A. Identify discount and add-on loans	V. Percentage as applies to the following: . Cost . Pricing . Profit & Loss . Mark-up . Borrowing Money	V. Identify the following vocabulary list (as used in the business world): . Net & Gross Income . Principal & Rate . Simple & Compound Interest . Bank Draft . Invoice . Inventory . Promissory Note . Premiums . Profit & Loss . Commissions	V. Class project A. Research a Business & Office career (Supp #1) from the Career Center B. Purchase a new auto or van (Supp #1)
				VI. Sound/color filmstrip A. Money management 1. Bank Loan, Finance Company and Credit Union

SENIOR MATH

SIMPLE INTEREST RATE PROBLEMS

Use the formula $i = \frac{24(I)}{P(N+I)}$

i = rate of simple interest
I = finance charge
P = cash unpaid balance
N = number of monthly payments

Find the simple interest rate to the nearest percent:

	Cash Selling Price	Down Payment	No. of Monthly Payments	Amount of Each Payment
1.	$ 60	$ 10	3	$17.70
2.	$184	$ 34	9	$19.65
3.	$475	$125	15	$27.70
4.	$310	$100	15	$16.10
5.	$735	$225	21	$28.00
6.	$700	$200	18	$34.40
7.	$750	$250	24	$25.85
8.	$ 85	$ 15	5	$15.40
9.	$295	$ 95	15	$14.85
10.	$200	$ 40	12	$14.50

SENIOR MATH

SIMPLE INTEREST PROBLEMS

1. Which is the more favorable loan to the borrower - 3/4% per month on the unpaid balance or 8-1/2% simple interest per year?

Find the interest on the following loans; use a simple interest table:

2. $800 at 1-1/2% for 95 days.

3. $1200 at 4-1/2% for 240 days.

4. $1050 at 8% for 65 days.

5. $645 at 3-1/2% for 59 days.

6. Hal has a $1000 bond which pays him $37 interest every six months. What is the rate of interest he receives on his bond?

7. The Shark Loan Company charges 3% per month for unsecured loans. How much will it cost Felix to borrow $150 for one year?

Find the interest for 8% on the following. Use a simple interest table:

8. $500 for 100 days.

9. $1000 for 243 days.

10. $345.50 for 120 days.

SENIOR MATH

BUYING & SELLING MERCHANDISE

Find the selling prices that give the desired margin of profit.

Sales - Cost of Goods Sold - Operating Expenses = Net Profit

1. A tennis racquet that cost $16.50 with a margin of 45%.
2. A tennis ball that cost $.55 with a margin of 50%.
3. A chess set that cost $6.75 with a margin of 47-1/2%.
4. A ping-pong set that cost $3.30 with a margin of 42-1/2%.

Write the margin as a percent of the selling price:

5. A hat costing $4.85 sells for $6.79.
6. A dress costing $10.50 sells for $15.23.
7. A television set costing $327 sells for $572.25.
8. A diamond ring costing $125 sells for $375.
9. A radio costing $21.60 sells for $38.88.
10. A pair of trousers costing $8.50 sells for $12.75.

Supplement 1

Name____________________

SENIOR MATH PROJECT

1. Worksheet on a new Automobile or Van:

A. Project to include the following information:

(1) Make and model ______________________________________

(2) List of all the extras you desire ________________________

____

(3) Special Features to include:
(a) miles per gallon ________________________________

(b) Size of engine __________________________________

(4) Total price of vehicle without a trade in, including tax and license

____

(5) Three-year payment plan to include:
(a) Type of loan (Car dealer, Bank, Credit Union, or Finance Co.)

____

(b) Amount of down payment ____________________________

(c) Monthly payments ________________________________

(d) Annual rate of interest ____________________________

(e) Total amount of interest paid over 3 years _______________

____

(6) Amount of basic insurance coverage needed:
(a) Bodily Injury and Property damage 15/30/10 _______________

(b) Medical $2000 ____________________________________

(c) Comprehensive $50 ded. _____________________________

(d) Collision $100 ded. _______________________________

(e) U.M.C. ____

Total Cost _______________

(7) Monthly Expense **Cost**

(a) Monthly car payment ____________

(b) Monthly insurance payment ____________

(c) Monthly gas payment ____________

Total Monthly Cost of Vehicle ____________

(8) How much would you have to net each month in order to purchase this vehicle if you alloted 25% of your budget for the payment, gas and insurance? ____________

(Net Monthly Income ÷ .25)

(9) A brochure of the automobile or van to be included with the project.

FINANCE CHART

To include - The Research of a Business & Office Job

1. Job Title
2. Qualifications
3. Fringe Benefits
4. Starting Monthly Income
5. Deductions:
   a. Federal income tax (refer to the tax tables) ____________
   b. F.I.C.A. 6.05% ____________
   c. State tax 1-1/2% ____________
   d. S.D.I. 1% ____________

   Total Deductions ____________
6. Net Monthly Income ____________
7. Auto expense 25% of net monthly income ____________
8. Savings 10% of net monthly income ____________
9. Total amount of savings per year ____________
10. Saving this amount through an I.R.A. program over a 40 year period would give you an accumulated total of $____________ (Banks pay 7% and Insurance Companies pay 5% - refer to compound interest table)

SENIOR MATH

QUESTIONS ON LIFE INSURANCE

1. What is the most common reason for the purchase of life insurance?

2. When is it most important to buy life insurance? Why?

3. What are the advantages of buying life insurance when you are young?

4. What are the advantages and disadvantages of saving through life insurance rather than through the saving media?

5. Why is it important to review a life insurance program periodically?

6. What would be the advantages and disadvantages to purchasing a whole life policy of the following?

Age & Sex	Face Value	Yearly Premium	Total paid in at 65	Total value at 65
21 M	25,000	325.25	14,311	44,823
21 F	25,000	300.25	13,211	41,573

SENIOR MATH

WILL YOUR TAKE HOME PAY BE ENOUGH?

Estimated Monthly Expenses

	Living Alone	Sharing Expenses
Rent, one bedroom	$210	$105
Utilities,		
Electric	$20	$10
Gas	$10	$5
Telephone	$15	$7.50
Car,		
Payment	$130	$130
Insurance	$60	$60
Gas	$50	$50
Repair and Maint	$10	$10
Clothing,		
New clothes	$20	$20
Laundry and Clean	$10	$10
Foot	$150	$75
Entertainment	$??	$??
Total Expenses	$690	$483.50
Total Expenses	$4/hr	$3/hr

Take Home Pay

Per Hour	Per Month	Net Take Home
$2	$346	$282.10
$2.50	$433	$344.10
$3	$520	$405.28
$3.50	$596	$456.90
$4	$693	$519.43
$5	$860	$640.09
$6	$1052	$774.02

Deposits

Rent, first and last month in advance.

Cleaning	$50 to $150
Electric	$30
Gas	$15
Telephone	$49

SENIOR MATH

BUSINESS & OFFICE VOCABULARY

1. Marked price or list price - is the price marked on the article.
2. Discount - is a reduction from the marked price.
3. Net price - is the marked price less the discount.
4. Commission - is pay for work or services performed by an agent.
5. Gross proceeds - is the money received by the agent for his employer or the value of his services to his employer.
6. Net proceeds - is the gross proceeds minus the commission.
7. Assessed value - value placed on property by the assessor and basis for the levy of taxes.
8. Market value - the best price a property would bring in dollars if freely advertised for sale.
9. Interest - money paid for the use of money.
10. Comprehensive insurance - covers losses arising from fire, theft, vandalism, etc.

Interview Material

KNOW WHAT FACTS TO HAVE READY

Personal Information	Home Address	Phone	Birthdate
	Social Security Number	Military Branch of Service	Date of Service
Education and Training	High School Attended	Grade Completed	Last Date Attended
	College Attended	Grade Completed	Last Date Attended
	Other Training	Degree or Certificate	
Employment Information	Name and address of employer		
	Job Title	Date Employed	Rate of pay
	Name and address of employer		
	Job Title	Date Employed	Rate of pay
	Name and address of employer		
	Job Title	Date Employed	Rate of pay
References (other than relatives)	Name and address	Phone number	
	Name and address	Phone number	
	Name and address	Phone number	

Know how to handle job interviews

Points to remember:

1. Dress neatly and appropriately.
2. Be prompt.
3. Fill out application neatly and completely.
4. Wait to be asked before sitting down.
5. Smoke only by invitation. Don't chew gum.
6. SMILE, look directly at the person.
7. Speak clearly. Answer questions directly.
8. Learn as much as you can about the job you are applying for.
9. Bring out, if possible, how the employer can benefit by hiring you.
10. Thank the interviewer for his time and consideration.

Know where to look

Consider these sources for job leads:

1. Direct employer contacts.
2. Friends and relatives.
3. Federal, State, County and Local government.
4. Private employment agencies.
5. Public employment agencies.
6. Former employers.
7. Newspapers, major and local, for classified ads, news articles about new plants, company expansions, and business trends.
8. Telephone Directory Yellow Pages.
9. Unions.
10. Community Service Agencies.
11. Vocational Institutions.
12. Public Library- Ask librarian for trade journals, vocational publications, and other job information.

SENIOR MATH

COMMISSION PROBLEMS

Charley Ables sells new and used cars. When he sells a car, he is paid a commission. Find the commission on the following sales:

1. 4% on $6,070 sales
2. 6.5% on $15,550 sales
3. 11.5% on $8,900 sales
4. 9% on $9,490 sales
5. 0.5% on $37,862 sales
6. 9.2% on $2,455 sales
7. 8.25% on $23,478 sales
8. 5% on $13,698 sales
9. 2% on $58,637 sales
10. 4.5% on $8,287 sales

SENIOR MATH

BUSINESS & OFFICE PROBLEMS

1. How much can be saved, by buying at a discount of 33 1/3%, a desk marked $108?

2. What is the selling price of a $395 bedroom set when sold at a discount of 12 1/2%?

3. A piano marked $1950 is offered at a 15% discount. Hou much is saved by buying at the reduced price?

4. What is the sales price of an outboard motor marked $294.95 if it is sold at a 25% discount?

Find the net price if the discount is 20% when the list price is:

5. $15.25

6. $45.00

7. $36.75

If the rate of discount is 25%, what is the net price for articles that have been marked:

8. $9.65

9. $17.45

10. $21.50

SENIOR MATH

BUSINESS & OFFICE PROBLEMS

1. The highest rent that a family should pay is said to be about 25% of the income of the family. What monthly income then should a family have whose rent is:

   A. $430 B. $320 C. $218

2. A real estate broker gets 7% of the selling price he receives for property that he sells. What commission does he receive for selling a home worth $107,000?

3. How much does an agent earn in a week if his commission is 7.5% of the $1850 worth of goods that he has sold?

4. What is the net cost of a dress that has been selling for $67.95 if it is now sold at a discount of 10%?

5. A man is paying $280 a month for rent. What must his monthly income be to make his rent 20% of the monthly income?

6. How much will be saved by paying a $28.50 gas bill promptly if the discount for prompt payment is 3%?

7. A store is selling certain goods at a discount. What will the new price be:

   A. for a $56.50 tennis racket sold at 10% off?

   B. for a pair of shoes at $28.95, sold at a 20% discount?

   C. for a $25.75 badminton set sold at a discount of 33 1/3%?

SENIOR MATH

BUSINESS & OFFICE PROBLEMS

Use the formula $r = \frac{i}{pt}$

Find the monthly interest rate charged by each company on a loan of $1800.

1. Company A: $81 interest for 3 months
2. Company B: $90 interest for 4 months
3. Company C: $30 interest for 2 months
4. Company E: $40.50 interest for 1 month
5. Company D: $648 interest for 12 months
6. Company H: $108 interest for 6 months
7. Company Q: $63 interest for 2 months
8. Company J: $189 interest for 7 months
9. Company P: $134 interest for 1/2 year
10. Company F: $189 interest for 7 months

SENIOR MATH

BUSINESS & OFFICE MATH PROBLEMS

Compute the pre-payment penalty and the total amount needed to pay off these loan balances:

	Loan Balance	Pre-Payment Penalty
1.	$ 881.00	6%
2.	$ 1,641.30	5%
3.	$ 5,738.46	5 1/2%
4.	$10,360.01	6 1/4%
5.	$14,795.68	6 2/3%
6.	$13,381.52	6 3/4%
7.	$ 3,425.12	7%
8.	$11,192.79	5%
9.	$ 4,405.19	8%
10.	$15,630.05	6 1/2%

SENIOR MATH

CONSUMER AND HOMEMAKING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Fundamental operations with whole numbers, decimals and fractions	I. Review computational skills involving whole numbers, decimals and fractions.	I. Structure of cluster A. Clothing, textiles, and fashions B. Family and child development C. Food and nutrition D. Housing and home management	I. Identify and compute the following problems with the use of tables: A. Compound Interest B. Simple Interest C. Insurance Premiums D. Amortized Real Estate Loans	I. Bulletin board materials - detail of all Consumer & Homemaking related jobs with occupational awareness mini-brief subject-oriented Occupational Packet for student reference.
II. Application - Ratio, Proportions & Percents	II. Compute the three types of percent problems.	II. Determination of needed materials for different types of Consumer and Homemaking jobs.	II. Determine the area and materials needed to cover that area: A. Painting B. Paperhanging C. Roofing	II. Textbooks: Math for Everyday Living, Lewis Chap #4 - Personal Income Chap #5 - Income Tax Chap #8 - Insurance Chap #1 - Automobile ownership Math for the Real World - Brown, Charles & Clifford Chap #9 - Area Consumer & Career Math - Bolster, Woodburn & Gipson Text pp. 354 & 355, 232-235 Chap #11, Text pp 218-224 Math for Everyday Life - Brown, Charles & Clifford Text Chap #7, pp 123-142
III. Working with the metric system	III. Identify basic units of the metric system.	III. The percentage mastery is a decision making tool used whenever there is a quantitative comparison evaluation in any Consumer and/or Homemaking job.	III. Evaluate percentage problems, noting type, computation, and comparison, given maximum benefits.	III. Speakers A. Automobile Insurance salesperson B. I.R.A. - Individual Retirement Account C. Automobile salesperson D. Income Tax advisor E. Financial Counseling Service 1. To discuss the services available to consumer with budget problems
IV. Application - financial A. Personal Income 1. Salary 2. Piecework 3. Commission B. Deductions 1. Federal Income Tax 2. Social Security 3. State Tax 4. State Disability Insurance 5. Union Dues C. Banking 1. Checking Account 2. Savings 3. I.R.A. Programs D. Budget E. Insurance F. Loans	IV. Compute the three types of personal income. A. Skills 1. Straight time and overtime wages 2. Compute earnings from a time card 3. Compute the various types of commission 4. Know the difference between gross and net income B. Compute the following deductions with the use of tables: 1. Federal Income Tax a. weekly, monthly and yearly deductions 2. Social Security a. weekly and monthly deductions C. Compute banking problems to include: 1. Checkbook balance 2. Reconciliation statement 3. Simple and compound interest with the use of tables. D. Develop the skills necessary to draw up a workable budget. a. using instructor's figures b. using student's figures E. Compute insurance premiums with the use of tables. F. Compute small loans with the use of tables.	IV. Application: A. Compute personal income B. Money management C. Taxation D. Banking E. Types of interest 1. Simple 2. Compound F. Insurance 1. Life 2. Casualty 3. Home owners	IV. Measure, using the metric system.	IV. Films A. Banking - Aetna Life & Casualty
			V. Recognize, identify and compute the three types of percent problems used in Consumer/Homemaking occupations.	

SENIOR MATH

CONSUMER AND HOMEMAKING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			
V. Investments A. Real Estate	V. Compute Real Estate loans or amortized loans with the use of tables.			V. Video Tapes A. Vc 5916 Metrics for Measure B. Vc 5653 Installment Buying
VI. Purchasing A. Credit Cards B. Installment Buying	VI. Compute credit card and installment buying interest charges.			VI. Class Projects A. Research a Consumer/Homemaking career (Supp. #1) B. Cost Worksheet on the purchase of a new automobile or van (Supp. #2)

Supplement 1

CONSUMER & HOMEMAKING PROJECT

I. Research a job in the Consumer & Homemaking cluster and fill out the following information:

1. Job Title:

2. Qualifications:

3. Fringe Benefits:

4. Starting Monthly Income:

5. Deductions:

   a. Federal income tax (refer to the tax tables) $ ____________

   b. F.I.C.A. 6.05% up to $17,700 $ ____________

   c. State tax 1-1/2% $ ____________

   d. S.D.I. 1% $ ____________

   Total Deductions $ ____________

6. Net Monthly Income $ ____________

7. Auto 25% of net monthly income $ ____________

8. Savings 10% of net monthly income $ ____________

9. Total amount of savings per year $ ____________

10. Saving this amount through an I.R.A. program over a 40-year period would give you an accumulated total of $__________ (Banks pay 7% and Insurance Companies pay 5%: refer to compounded interest table.)

CONSUMER & HOMEMAKING PROJECT

Supplement 2

I. Cost Worksheet on the purchase of a new automobile or van:

A. Project to include the following information:

1. Make and Model ______________________________

2. List of all the extras you desire: ________________

____

3. Special Features to include:

   a. miles per gallon ________________________

   b. size of engine __________________________

4. Total price of vehicle without a trade-in, including tax and license ______________________________

5. Three-year payment plan to include:

   a. Type of Loan - (Car dealer, Bank, Credit Union or Finance Co.)

   ____

   b. amount of down payment ____________________

   c. monthly payments ________________________

   d. annual rate of interest ____________________

   e. total amount of interest paid over 3 years ________

   ____

6. Amount of basic insurance coverage needed: Cost:

   a. Bodily Injury and Property Damage 15/30/10________

   b. Medical: $2000 ________________________

   c. Comprehensive $50 ded. ____________________

   d. Collision $100 ded. ______________________

   e. U.M.C. ______________________________

Total Cost __________

7. How much money would you have to net each month in order to purchase this vehicle if you allotted 25% of your budget for a payment, gas, and insurance?

Cost:

a. monthly car payment ______________________________

b. monthly insurance payment ______________________________

c. monthly gas payment ______________________________

d. net month Total Monthly Cost of Vehicle:

____

e. net monthly income ______________________________

SENIOR MATH

A Typical Price Increase in Southern California in One Year is as follows:

Housing 11%

Food and Beverage 9%

Gas and Electricity 7%

Clothing 7.5%

Health and Vacation 9.5%

Furniture and all other items 10%

Transportation (auto, plane, parts, services) 8%

Find the new price for each item:

	Item	Old Price	New Price
1.	Automobile	$39.50	________
2.	Dental Visit	$12.00	________
3.	Case of cokes	$2.25	________
4.	Donut	$.12	________
5.	Round Trip Airplane Ticket (Los Angeles to New York)	$238	________
6.	Sweaters	$18.95	________
7.	Rent	$200	________
8.	Chair	$99.95	________
9.	Electric Bill	$42.50	________
10.	Steak	$2.98	________

CONSUMER & HOMEMAKING PROBLEMS

FIND THE COST OF RENTING EACH ITEM:

Rental Clerks Math Problems:

	Item	Minimum Charge	Hourly Rate	Daily Rate
1.	Circular Saw	$4.50	$1.50	$9.00
2.	Disc Sander	$3.75	$1.25	$7.50
3.	Rug Shampooer	$4.50	$1.50	$9.00
4.	Car Polisher	$5.25	$1.75	$10.50
5.	Floor Sander	$6.75	$2.25	$13.50
6.	Tiller	$12.75	$4.25	$25.50
7.	Rug Steamer	$12.00	$4.00	$24.00
8.	Extension Ladder	$4.50	$1.50	$9.00

1. Fred uses a tiller 2 days a year. If a tiller costs about $4.50, how many years could he rent one at the daily rate and still pay less than if he bought one?

2. A car polisher costs $35 to buy. How many hours could Jan rent it at the hourly rate and still pay less than if she buys it?

Find the cost of renting each item:

	Item	Time
3.	Circular Saw	2 hours
4.	Floor Sander	7 1/2 hours
5.	Tiller	2 hours
6.	Car Polisher	5 hours
7.	Rug Shampooer	8 hours
8.	Disc Sander	5 1/2 hours
9.	Rug Steamer	2 days
10.	Extension Ladder	3 days

CONSUMER & HOMEMAKING PROBLEMS

Carpet Estimator Problems:

1. How many square feet in one square yard?
2. Find the number of square yards in 12 x 23" square feet.
3. Suppose carpet cost $11.59 per square yard. Find the cost of a piece of carpet 12 x 23'11".
4. Suppose the pad cost $3.49 per square yard. Find the cost of the pad for a piece 12 x 23'11".
5. Suppose the installation fee is $2 per square yard. Find the installation cost for a piece 12 x 23'11".
6. A room measures 18 x 26 feet. Find the total cost of carpeting this size room. Include the carpet at $11.59 per square yard, padding at $3.49 per square yard and the installation cost at $2 per square yard.

Copy the chart -

Cost of pad is $3.50 per square yard, carpet is $13.49 per square yard and installation is $2 per square yard. Find the total cost:

	Room Size (ft.)	Carpet Width	Pad Cost	Carpet Cost	Installation Cost	Total Cost
7.	19 x 24	12 ft.				
8.	11 x 15	15 ft.				
9.	14 x 22	15 ft.				
10.	17'3" x 21	12 ft.				

CONSUMER & HOMEMAKING PROBLEMS

Use the general guideline of 2.5 times annual income.

1. Ed earns $4.75 per hour in a 40 hour work week. Marta earns $950 per month. Can they consider a $47,950 home?
2. Tom earns $7.65 per hour. Maria earns $525 per month. Can they consider a $58,000 home?
3. Anne earns $150 per week. Harvey earns $4.35 per hour. Can they consider a $40,000 condominium?
4. Elizabeth is buying a home that costs $53,000. She makes a 10% down payment. What is the amount of the loan after the down payment?
5. Mike borrowed $29,000 at 9% annual interest for 25 years. What is the amount of interest he will pay the first month?
6. The Condiffs paid an escrow fee of .5% of the purchasing price of their home. What was the fee if the house cost $87,800?
7. Barbara earns $4.25 per hour in a 20-hour work week. Frank earns $17,500 per year. Can they consider a $60,000 home?
8. What is the total amount of interest that will be paid on a loan of $35,000 at 8.5% annual interest for 30 years? The monthly payment is $269.15.
9. Juan is buying a condominium for $48,500. He must make a 20% down payment. What is the amount of the loan after the down payment?
10. The Statens' property has a market value of $38,400. The rate of assessment in the area is 60%. The tax rate is $3.23 per $100 of assessed valuation. What is the Statens' property tax?

CONSUMER & HOMEMAKING PROBLEMS

1. The balance brought forward was $475.80. Deposits of $163.20 and $87.25 were made. The amount of this check is $287.45. Find the balance carried forward to the next stub.

2. The balance carried forward was $189.53. Checks for $17.86 and $9.32 were deposited. If the amount of this check is $57.15, find the balance carried forward to the next stub.

3. The ending balance on a bank statement is $196.50. There are outstanding checks for $19.70 and $125.25, and an outstanding deposit of $57.56. Find the adjusted statement balance.

4. The ending balance on Ann Umeki's bank statement is $147.80. She has an outstanding deposit of $57.26. There are outstanding checks for $37.86, $29.40 and $75.84. What is Ann's adjusted statement balance?

5. Roy has these checks to deposit: $23.78, $116.29, $108.25 and $8.75. If he wanted $75 in cash, how much did he deposit in his account?

6. Linda had these checks to deposit: $208.36, $97.18, and $8.64. If she wanted $35 in cash, how much did she deposit in her account?

Find the true amount in each checking account:

7. Statement Ending Balance: $44.27
   Outstanding Deposits: $27.10, $12.30
   Service Charge: $1.21
   Outstanding Checks: $9.98
   Check Register Balance: $75.50

8. Statement Ending Balance: $67.38
   Outstanding Deposit: $15.45, $12.55
   Outstanding Checks: $18.45, $17.12, $20.20
   Service Charge: $1.50
   Check Register Balance: $41.11

9. Statement Ending Balance: $235.00
   Outstanding Deposits: $12.00, $13.00
   Outstanding Checks: $9.75
   Service Charge: $1.00
   Check Register Balance: $230.00

10. Statement Ending Balance: $392.41
    Outstanding Deposits: $32.41, $50.12, $49.46
    Outstanding Checks: $42.75, $73.12, $63.30, $88.71
    Service Charge: $2.15
    Check Register Balance: $176.87

CONSUMER & HOMEMAKING PROBLEMS

1. Merchandise is bought to the amount of $1,250. The merchant is offered a 3-1/2% discount for cash. What did the goods cost him if he took advantage of the discount?

2. Which is the more profitable, and by how much, for a buyer to choose on a $3,500 purchase, a single discount for 15% or discounts of 10% and 5%?

3. I obtained a discount of $312.20 on a purchase of $8,920. What rate of discount was I allowed?

4. What is the value of stock that can be bought for $9,682, allowing the broker a commission of 3%?

5. An agent in Chicago purchased 4,700 bushels of wheat at $1.55 a bushel. What was his commission at 1-1/2% of the purchase money?

6. A real estate agent sold a house for a certain sum of money and remitted $19,600 to the owner after deducting his commission of 2%. For how much did the agent sell the house?

7. What commission must be paid for collecting $17,380 at 3-1/2%?

8. Mr. A's property is valued at $5,000 and his tax rate is 13 mills. What is the amount of his taxes?

9. A merchant imported 500 boxes of cigars (each weighing 1 pound and containing 100 cigars) invoiced at $9.50 a box. The duty was 25% ad valorem and $4.50 a pound. What was the total duty paid?

10. The ad valorem duty on 800 yards of carpet valued at $4.65 a yard is $928. What was the rate of duty?

11. A developer owns 90 acres of land worth $2,100 an acre. This was assessed for taxation at 2/3 of its value. The rate was 2-1/2¢. What taxes did he pay?

12. The specific duty on sugar is 1-1/2¢ per pound. What would be the amount of duty on a shipment of 52 tons? (1 ton weighs 2000 pounds.)

13. A house valued at $20,000 was insured for 4/5 of its value, at a yearly rate of 24¢ per $100. What is the yearly premium?

14. How much money could be saved in Problem 13 on the basis of a 3-year premium?

15. If you insure your house for $20,500, at a yearly rate of 24¢ per $100, and your furniture for $6,400, at a yearly rate of 28¢ per $100, how much total premium must you pay for one year?

16. If the marked price of an article is $60 and the discount is $20, what is the percent of discount?

17. If the marked price of an item is $50 and a sale price is $37, what is
    (a) the discount,
    (b) the percent of discount?

18. Suppose you, as a salesman, sold $1,400 worth of goods. If your rate of commission was 10%, find the net proceeds.

19. What is the cost to insure merchandise valued at $9,500 for a year if the rate is 66¢ per $100?

20. Find the fire insurance premium, for two years coverage, on a factory valued at $125,000. The rate is 28¢ per $100 per year.

SENIOR MATH

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Fundamental operations with whole numbers, decimals and fractions	I. Review computational skills involving whole numbers, decimals and fractions.	I. Workers in Manufacturing: A. Refine ore and petroleum B. Process food and chemicals C. Print books & newspapers D. Spin & weave textiles E. Fabricate clothing & footwear	I. Recognize, identify and compute the three types of percent problems used in Manufacturing occupations.	I. Textbook - Math for Daily Living - Lewis Chap #4: Personal Income Chap #5: Income Tax Chap #6: Banking Chap #8: Insurance
II. Application - Ratio, Proportions and Percents	II. Compute the three types of percent problems	II. A manufacturer must produce a product that people need or will use: A. First step in making a new product is testing to see if people will buy it B. Manufacturer must find the best way to make the product with its greatest profit	II. Recognize the services available through banks, finance companies and credit unions. A. Checking accounts B. Small loans C. Saving accounts D. Credit cards	II. Text - Career Mathematics Lying, Mecari, Zavick, Chap #12, Manufacturing, Pp. 357 - 378.
III. Working with the metric system	III. Identify basic units of the metric system.	III. Computations in Industry: A. To read several kinds of industrial meters: 1. Electric & gas meters B. To read and interpret bar and line graphs C. To take precise measurements with inch and centimeter rulers. D. To read and interpret technical drawings	III. Identify the following terms and solve problems using: A. Packaging B. Marketing C. Selling Price D. Coating E. Mixing Process F. Stamping	III. Class project A. Research a Manufacturing Career 1. To include: a. Job Title b. Qualifications c. Fringe benefits d. Starting and maximum salary e. Payroll deduction f. Net Income g. Auto expense 25% of net income h. Savings 10% of net monthly income i. Total amount of savings per year j. Saving through an I.R.A. program over 40 years would give an accumulated total of X number of dollars
IV. Application - financial A. Personal Income B. Deductions C. Banking D. Budget E. Insurance F. Loans	IV. Compute the three types of personal income: A. Skills B. Compute the following deductions with the use of tables. C. Compute banking problems D. Develop the skills neccessary to draw up a workable budget of their own E. Compute insurance premiums with the use of tables F. Compute small loans with the use of tables	IV. All of the areas of Manufacturing which include: . Management . Scientists . Engineers . Technicians . Craftsmen . Skilled workers . Semi-skilled workers . Unskilled workers	IV. Find the amount of material needed to produce various items.	IV. Sound/color filmstrip A. Money Management Series 1. Bank loans, finance company and credit union
V. Investments	V. Compute Real Estate or amortized loans with the use of tables.			
VI. Purchasing	VI. Determine pricewise the better buy.			
VII. Comparison shopping				

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
		All need a basic understanding how to compute problems in: . Personal Income . Banking . Taxation . Insurance		
		V. Compute the three types of percent problems used in most occupations.		

SENIOR MATH PROJECT

RESEARCH A MANUFACTURING RELATED CAREER

FINANCE CHART

I To include

1. Job Title
2. Qualifications
3. Fringe Benefits
4. Starting Monthly Income
5. Deductions:
    - a. Federal income tax (refer to the tax tables) ____________________
    - b. F.I.C.A. 6.05% ____________________
    - c. State tax 1-1/2% ____________________
    - d. S.D.I. 1% ____________________

    Total Deductions ____________________
6. Net Monthly Income ____________________
7. Auto expense 25% of net monthly income ____________________
8. Savings 10% of net monthly income ____________________
9. Total amount of savings per year ____________________
10. Saving this amount through an I.R.A. program over a 40-year period would give you an accumulated total of $ ________ (Banks pay 7% and Insurance Companies pay 5% - refer to Compound Interest Table.)

SENIOR MATH

MANUFACTURING VOCABULARY

1. Casting - pouring molten or fluid materials into a mold.
2. Stamping - device which shapes material.
3. Thermal Conditioning - changing material by heat treatments.
4. Chemical Conditioning - materials can also be hardened.
5. Physical Conditioning - properties of a material can also be changed by magnetism.
6. Separation - remove excess materials.
7. Mixing process - one way of combining materials.
8. Coating - materials can be made more durable and attractive.
9. Electroplating - a direct current of electricity is used.
10. Bonding - joining solid parts
11. Fusion bonding - when parts are heated to the point that they flow together and then cool to make a rigid bond.
12. Solder - a combination of tin and lead used as an adhesive for certain types of metals.
13. Quality Control - testing of a product before, during and after its development.
14. Inspection - one way of testing the quality of a product.
15. Packaging - finished products must be put in some type of container.
16. Marketing - a product involves pricing, advertising and selling.
17. Selling price - the cost of making the product, packaging, shipping, storing, advertising and selling it determines the manufacturer's cost.
    Selling price = cost + expenses + profit
18. Tolerance - the difference between the greatest and smallest acceptable dimensions or specifications.
19. Efficiency - is the ratio of the power produced to the power used.
20. Discount - is a reduction in the marked price of an item.

SENIOR MATH

MANUFACTURING PROBLEMS

1. It takes 17 trees to make a ton of newsprint. How many trees can be saved by making 85,000 tons of newsprint with 100% recycled paper?

2. A company uses stationery made of 65% recycled paper. If the company uses 586,000 kilograms of paper in one month, how much of the paper has been recycled?

3. How much will 15,000 sheets of substance 20 book paper weigh?

4. A printing job requires 3 reams of substance 24 paper at 48 cents per pound and 2 1/2 hours of labor for typesetting and printing at $6.50 per hour. What was the total cost of the job?

5. A package of 1000 staples for a stapler cost $2.41. What is the cost of 5 packages of staples.

6. If one bolt is capable of holding 2 tons, how many bolts are needed for a 60 ton load if we add 20% more bolts for safety?

7. An automated auto-painter can paint 54 cars in an hour. How long will it take to paint 1000 cars?

8. If a painter paints at a rate of 200 square feet per hour, how many hours will he need to paint 1500 square feet?

9. One gallon of white glue weighs 11 pounds and sells for $5.44. What is the price per pound of this glue?

10. A painter applies a primer coat at the rate of 150 square feet per hour and is paid $5.50 per hour. How much will it cost to have the painter paint 1200 square feet?

SENIOR MATH

MANUFACTURING PROBLEMS

1. It costs a soft drink company 1.5 cents to produce one new bottle. The company uses 3 million bottles per year. 80% of the bottles it uses have been recycled and the rest are new. What is the cost of producing new bottles each year?

2. A machine can produce cast soft drink bottles at a rate of 6 bottles per minute. How many bottles can be made by one machine in an 8-hour shift?

3. One mold can be used to produce 5 castings per hour. How many castings can be produced by 2 molds in 3 hours?

4. A 2" round iron bar is heated and then cooled with water. The rate of cooling is 550° per second. How many degrees will it cool in 3 seconds?

5. A glass jar contains 7 cubic inches of glass. How many jars are needed to make 1400 cubic inches of crushed glass?

6. A high speed drill bit has a cutting speed of 70 fpm. If the drill bit has a diameter of 3/8 inch, what is the rpm of the bit?

7. A gas cutting torch will burn for 4 hours on one tank of gas. If the torch is capable of cutting 6 pieces per minute, how many pieces can be cut with one tank of gas?

8. The glue sticks for an electric glue gun cost $2.39 for a box of 60 sticks. What is the cost per stick?

9. A package of hard-surface welding rods contains 23 pieces and costs $1.97. What is the price of each piece?

10. A package of 100 assorted bolts weighing 5 pounds, 8 ounces sells for $3.39. What is the price per pound?

SENIOR MATH

RATIO & PROPORTION PROBLEMS

1. If 5 tons of coal cost $150, what will 3 tons cost?
2. If $480 gains $84 interest in 30 months, what sum will gain $21 in 15 months?
3. If 5 tons of coal cost $150, what will 3 tons cost?
4. What will 11 pounds of a product cost if 3 pounds 12 ounces cost $3.50?
5. How many hours would it take you to go 180 miles if you went 240 miles in 6 hours.
6. If 15 men can build a wall 12 feet high, how many men will be required to build one 20 feet high?
7. If a mountain road rises 5 feet in every 40 feet of distance, how much will it rise in 100 feet of distance?
8. If a printing press printed 675 pages of material in 15 minutes, how long would be required to print 2,700 pages?
9. If 5 men can lay 24,000 bricks in 5 days, how many men will lay 18,000 bricks in 5 days?
10. If 6 laborers dig a ditch 34 yards long in 10 days, how many yards can 20 laborers dig in 15 days?

SENIOR MATH

MARKETING AND DISTRIBUTION CURRICULUM UNIT

9-37

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Fundamental Operations with whole numbers, decimals and fractions	I. Review computational skills involving whole numbers, decimals and fractions.	I. Percentage as it applies to: A. Cost B. Pricing C. Profit D. Loss E. Mark-up	I. Identify the following terms and solve problems using: A. Selling price B. Cost C. Discount rate D. Commission E. Trade discount F. Mark-up G. Finding retail price	I. Textbook: Math for Daily Living, Lewis Chap 1: Automobile Ownership Chap 3: Purchasing Consumer Goods Cahp 4: Personal Income Chap 5: Income Taxes Chap 8: Small Loans
II. Application - Ratio, Proportions and Percents	II. Compute the three types of percent problems.	II. Data Collection - tabulation, merchandising, time - yearly and daily. A. Merchandising and time--peak periods B. Transportation 1. Topology - easiest and cheapest way, and routing problems 2. Interpretation a. Mean b. Mode c. Median d. Percentage C. Selling 1. Merchandising 2. Time a. Yearly b. Monthly c. Daily d. Peak periods	II. Interpret the mean, mode and median in merchandising to find peak periods.	II. Source of reference materials: A. Merchandising Mathematics, Snake - Chap #23 text Pp. 309 - 316
III. Working with the Metric System	III. Identify basic units of the metric system.	III. From tabulated data, decisions can be made concerning supply and demand.	III. Tabulated data should help in predicting demands of products and, therefore, A. Sales B. Production C. Labor	III. Speakers A. Banking Services B. Small Business Owner C. Insurance Salesperson D. Casualty Insurance Salesperson
IV. Application - Financial A. Personal Income B. Deduction C. Banking D. Budget E. Insurance F. Loans	IV. Compute the three types of personal income.	IV. All of the areas of Marketing & Distribution which include: A. Marketing Management B. Market Research and Analysis C. Purchasing D. Sales Promotion and Training E. Selling F. Physical Distribution	IV. Identify the following terms and solve problems using: A. Gross income B. Net income C. Fixed expense D. Variable expense E. Commissions F. Overtime rate	IV. Sound/color filmstrips A. A Changing Times Educational Services 1. Money & Life Style 2. Buyer Be Wise B. Money Management Series 1. Bank Loan, Finance Company & Credit Union
V. Investments	V. Compute amortized loans with the use of tables.		V. Recognize, identify and compute the three types of percent problems used in Marketing and Distribution occupations.	V. Class project A. Research a Marketing and Distribution career to include: 1. Job title 2. Qualification 3. Fringe benefits 4. Starting and maximum salary 5. Payroll deductions 6. Net income 7. 25% of net income for automobile expense
VI. Comparison Shopping	VI. Determine pricewise the better buy.			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
		G. Related Business Services Need a basic understanding of how to compute problems in: A. Personal Income B. Banking C. Taxation D. Insurance		8. 10% of net income for savings 9. Accumulated total if saved through an I.R.A. program over a 40-year period.
		V. Compute the three types of percent problems used in most occupations.		

SENIOR MATH

TRADE DISCOUNTS

The term 3/10, N/30 means that a 3% discount is allowed if the bill is paid within 10 days and the full amount is due by the 30th day.

Solve:

1. What is the net price when the catalogue list price is $76.50 and rate of trade discount is 15%?

Find the cash discounts received and net amounts paid:

	Amount of Bill	Terms of Payment	Bill Paid On
2.	$16	2/10, N/30	4th day
3.	$239.50	5/10, N/60	15th day
4.	$89.25	4/15, N/60	10th day
5.	$348.20	3/10, N/30	9th day

6. What is the net price when the list price is $80 and the rates of discounts are 20% and 5%?

7. What is the trade discount when the catalogue list price is $12.95 and rate of trade discount is 8%?

8. A furniture store advertised a 25% reduction on all articles. What is the sale price of a living room suite marked $375?

9. If a dress marked $24 was sold for $19.20, what rate of discount was given?

10. On which is the rate of discount greater and how much greater; a rug reduced from $120 to $90 or one reduced from $80 to $56?

SENIOR MATH

DETERMINE THE SELLING PRICE

Use the formula:

Selling Price - Markup = Cost

	Retailer's Cost	Desired Markup	=	Retailer's Selling Price
1.	$480	30%		
2.	$4,980	40%		
3.	$5.32	33 1/3%		
4.	$34.50	40%		
5.	$29.75	30%		
6.	$7.59	45%		
7.	$15.86	35%		
8.	$210	32%		

9. A department store purchased towels at $5.76 per dozen. At what price must each towel be sold to gain 30% on the retail price?

10. For how much must a retailer sell an article that costs him $88 if he desires a markup of 45% on the selling price?

SENIOR MATH

FIND THE RETAIL PRICE

Use the formula:

Cost + Markup - Retail Price

	Cost	Markup Percent		Retail Price
1.	$6.00	40%	=	
2.	$720	35%	=	
3.	$420	20%	=	
4.	$987	32%	=	
5.	$1,787	35%	=	
6.		32%	=	$376
7.		40%	=	$5,362.65
8.		20%	=	$3.69
9.		35%	=	$9,267.50
10.		28%	=	$7,295

SENIOR MATH

FINANCE CHARGES PROBLEMS

Find the finance charges.

	Down Payment	Monthly Payment	Months	Cash Selling Price
1.	$10	$7.10	6	$50.45
2.	$15	$10.30	9	$105.00
3.	$25	$9.35	12	$125.50
4.	$30	$10.75	12	$145.95
5.	$20	$13.45	15	$195.00
6.	$30	$12.50	18	$220.25
7.	$48	$13.15	18	$248.45
8.	$40	$24.25	12	$298.50
9.	$70	$26.15	12	$349.95
10.	$100	$19.35	18	$395.00
11.	$110	$20.65	18	$424.75
12.	$100	$19.40	24	$476.50
13.	$120	$20.95	24	$525.20
14.	$150	$20.70	24	$550.50

SENIOR MATH

INTEREST-BEARING NOTE PROBLEMS

Find the maturity values of these interest-bearing notes.

	Note	Rate	Time
1.	$250	7%	1 year
2.	$395	8%	9 months
3.	$428	9%	6 months
4.	$477	8%	225 days
5.	$525	7%	135 days
6.	$615	8%	75 days
7.	$700	8 1/2%	3 months
8.	$756	7 1/2%	1 year
9.	$805	9%	3 years
10.	$872	8 1/4%	270 days
11.	$900	8 3/4%	100 days
12.	$950	8.33%	7 months

NON-INTEREST-BEARING NOTE PROBLEMS

Find the proceeds of these non-interest-bearing notes.

	Amount of Note	Maturity Date	Discount Date	Discount Rate
1.	$200	December 2, 1971	May 6, 1971	8%
2.	$265	July 6, 1972	January 7, 1972	9%
3.	$325	November 25, 1973	April 24, 1973	10%
4.	$275	August 14, 1974	March 17, 1974	7%
5.	$410	September 22, 1975	July 9, 1975	7%
6.	$485	December 10, 1976	March 15, 1976	8%
7.	$500	October 5, 1977	June 22, 1977	9%
8.	$525	November 12, 1978	May 16, 1978	8%
9.	$590	August 23, 1979	February 4, 1979	6 1/2%
10.	$650	December 28, 1980	June 1, 1980	7 1/2%
11.	%675	September 12, 1981	March 21, 1981	8 1/2%
12.	$700	October 10, 1982	February 27, 1982	9 1/2%

SENIOR MATH

DISCOUNT INTEREST RATE

Find the proceeds of these one-year loans that are discounted.

	Loan	Discount Rate
1.	$175	7%
2.	$220	8%
3.	$245	7 1/2%
4.	$275	8 1/2%
5.	$560	9%
6.	$585	8%
7.	$400	8 1/4%
8.	$600	7 1/4%
9.	$1,000	8 3/4%
10.	$1,050	7 3/4%
11.	$1,200	8 1/2%
12.	$1,250	8 3/4%
13.	$1,300	7.25%
14.	$1,375	8.5%
15.	$1,400	7.5%
16.	$1,425	8.75%

To prepare for the year-end sale, find the sales price.

	Article	Original Price	Discount We'll Give	Sales Price
1.	Bath Towels	3/ $7	25%	__________
2.	Sports Shirts	3/ $27	1/3	__________
3.	Dress Shoes	$24.99	20%	__________
4.	Clock Radio	$48.98	30%	__________
5.	8" Table Saw	$99.95	50%	__________
6.	Pants Suit	$65.95	15%	__________
7.	Dress	$49.95	1/2	__________
8.	Sweaters	$32.99	20%	__________
9.	Portable TV	$298.98	30%	__________
10.	Table Lamp	$29.95	10%	__________

580

SENIOR MATH

DIVIDING NET PROFITS

Divide these profits or losses equally among the partners. Include interest on Capital Investments.

	Net Profit or Losses	Partner	Capital Investment	Interest Rate
1.	$8,344 profit	Davis	$12,000	8%
		Spencer	$12,000	
2.	$15,369 profit	Knight	$5,000	7%
		Spindler	$7,500	
3.	$25,234 profit	Lyons	$11,000	10%
		Griffin	$9,000	
4.	$1,879 loss	Reid	$4,400	9%
		Wright	$3,600	
5.	$14,638 loss	King	$10,000	8%
		Finch	$8,000	
6.	$33,193 profit	Jolley	$12,000	8%
		Shannon	$9,000	
7.	$38,980 profit	Davenport	$13,500	6%
		Clark	$10,500	
8.	$45,400 profit	Patrick	$7,500	6%
		Jackson	$8,500	
9.	$27,842 profit	Stone	$5,000	8%
		Hughes	$6,000	
		Briles	$7,000	
10.	$4,800 loss	McKay	$6,300	10%
		Page	$4,700	
		Ryan	$5,000	

SENIOR MATH PROJECT

RESEARCH A MARKETING AND DISTRIBUTION RELATED CAREER

FINANCE CHART

I To include

1. Job Title
2. Qualifications
3. Fringe Benefits
4. Starting Monthly Income
5. Deductions:
    - a. Federal income tax (refer to the tax tables) ____________________
    - b. F.I.C.A. 6.05% ____________________
    - c. State tax 1-1/2% ____________________
    - d. S.D.I. 1% ____________________

   Total Deductions ____________________
6. Net Monthly Income ____________________
7. Auto expense 25% of net monthly income ____________________
8. Savings 10% of net monthly income ____________________
9. Total amount of savings per year ____________________
10. Saving this amount through an I.R.A. program over a 40-year period would give you an accumulated total of $ ________ (Banks pay 7% and Insurance Companies pay 5% - refer to Compound Interest Table.)

SENIOR MATH

PERCENTAGE PROBLEMS

1. An automobile dealer advertises "1/4 off on all cars." What percent is 1/4?
2. If there is a 3% tax on all retail sales and you buy a television set from a retail dealer for $450, how much tax would he add to your bill?
3. If you have 2,000 pounds of iron ore and a test shows that it is 70% iron, how many pounds of iron is there in the iron ore?
4. You own a $500 bond that pays 5% per year. How much interest would the bond earn the first year?
5. An electrician bought 800 feet of copper wire. If 15% of it was stolen and if he used 75% of it, how many feet were left?
6. Property worth $30,000 was insured against fire for 3 years at 2/3 of its value. The premium rate is 30¢ per $100 per year. What was the premium?
7. When water freezes, it expands 10% in volume. How many cubic inches of ice would 947 cubic inches of water make if frozen?
8. A laborer working 40 hours a week received $2.25 per hour. His week's wages were raised to $120.
    a. What was the increase per hour?
    b. What percent raise did he get?
9. Find the interest on $2,500 at 5-1/2% for 4 years and 8 months.
10. An agent purchased 5,000 bushels of corn at $1.30 a bushel. What was his commission at 2%?

583

SENIOR MATH

PERSONAL SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Fundamental operations with whole numbers, decimals and fractions	I. Extend understanding of, and ability to read, write, round off, and compute money.	I. All the areas of Personal Service which include: 1. Domestic Service 2. Lodging & Related Service Occupations 3. Barbering, Cosmetology, & Related Services 4. Drycleaning, Laundry, & Apparel Services 5. Domestic Animal Care 6. Food & Beverage Preparation and Service 7. Miscellaneous Personal Service	I. Identify the following terms and solve problems using: 1. gross income 2. net income 3. fixed expenses 4. variable expenses 5. commissions 6. overtime rate 7. tardy policy-salary loss 8. hourly rate	I. Textbook - *Math for Everyday Living*, Lewis. Chapter #4, Personal Income Chapter #5, Income Tax Chapter #6, Banking Chapter #8, Insurance
II. Application - Ratio, Proportions and Percents	II. Compute the four types of percent problems. A. Skills 1. Change a percent to a decimal 2. Change a decimal to percent 3. Multiply decimal numbers 4. Dividing decimal numbers		II. Develop an appropriate realistic and sound budget for part-time work. A. A budget for part-time work B. A working budget for future work services	II. Speakers 1. Income Tax Advisor 2. Banking Services 3. I.R.A. - Individual Retirement Account 4. Insurance Salesperson 5. Casualty Insurance Salesperson
III. Application - Financial A. Personal Income 1. Salary 2. Piecework 3. Commission	III. Compute the three types of personal income. A. Skills 1. Straight time and overtime wages 2. Compute earnings from a time card 3. Compute the various types of commission	Need a basic understanding of how to compute problems in: 1. Personal income 2. Banking 3. Taxation 4. Insurance	III. Recognize the various forms in which taxes are paid and to plan accordingly.	III. Sound/color filmstrip A. A changing times Educational Services 1. Banking and Banking Services 2. Money and Life Style 3. Buyer Be Wise B. Money Management Series 1. Bank Loan, Finance Company and Credit Union
B. Deductions 1. Federal Income Tax a. Tax Return Federal & State 2. Social Security 3. State Tax 4. Union Dues	B. Compute the following deductions with the use of tables: 1. Federal Income Tax a. weekly, monthly and yearly deductions 2. Social Security a. weekly and monthly deductions	II. Application 1. Compute personal income 2. Money management 3. Taxation 4. Banking 5. Types of interest a. Simple b. Compound 6. Insurance a. Life b. Casualty c. Medical	IV. Recognize the services available through banks, credit unions and finance companies. A. Check Accounts 1. Skills a. Fill out a deposit slip b. Write out and endorse checks c. Compute reconciliation statement	IV. Films 1. Insurance-Aetna Life and Casualty 2. Banking-Aetna Life and Casualty
C. Banking 1. Checking Accounts 2. Savings 3. I.R.A. Programs	C. Compute banking problems to include: 1. Checkbook balance 2. Reconciliation Statement 3. Simple and compound interest with the use of tables	III. Compute the three types of percent problems used in most occupations.		V. Class Projects A. Research a Personal Service Career 1. To include: a. Job Title b. Qualifications c. Fringe Benefits d. Starting Salary e. Maximum Salary
D. Budget	D. Develop the skills necessary to draw up a workable budget of their own.		V. Compute insurance policy payments by the use of tables found in text.	
E. Insurance	E. Compute insurance premiums with the use of tables.		VI. Recognize, identify and compute the three types of percent problems used in Personal Service Occupations.	

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
				f. Payroll Deduction (1) Income Tax-use of current tables (2) Social Security (3) State Tax g. Net Income h. Budget VI. Free Materials 1. Pamphlet - The Mathematics of Life Insurance Educational Division Institute of Life Insurance 277 Park Avenue New York, NY 10017

Personal Finance Chart Name

Job Title

Qualification

Fringe Benefits

Starting Yearly Salary

Maximum Yearly Salary

9-52

Total Monthly Income	Monthly Payroll Deduction				
Starting	Type	Rate	Starting Monthly Deducts	Maximum Monthly Deducts	Net Monthly Income
Maximum	Federal Income Tax	Refer to Chart			Starting
	F.I.C.A.	Refer to Chart			Maximum
	State Tax	1%			
	S.D.I.	1%			
	Total				

Budget and Expense Record

Items	Food	Shelter	Auto-Payment Insurance Gas Repairs	Household Operation	Medical & Personal	Recreation	Clothing	Savings
	19%	20%	28%	6%	4%	5%	8%	10%
Monthly amount starting Net Income								
Monthly amount from Maximum Net								

Name ____________________

No.# __________

Week ending ____________________

Rate $4.93

Day	In	Out	In	Out	Regular Hours	Quarter Hours of Salary Lost	Overtime Hours
Monday	8:00	12:00	1:00	5:00			
Tuesday	8:28	12:00	1:00	6:00			
Wednesday	8:00	12:00	1:00	7:00			
Thursday	8:55	12:00	1:00	5:00			
Friday	8:16	12:00	1:00	6:30			
Saturday							

1. Each employee is entitled to overtime pay for all time worked past 5 O'clock.

2. Work begins at 8:00 A.M. and ends at 5:00 P.M. with one hour off for lunch.

3. Tardiness Deduction.

Minutes Late	Loss of Salary
First 15 minutes	No loss of salary
For each succeeding 10 minute period or fraction thereof	Quarter of an hour salary

4. Answer the following:

(1) Regular hours worked __________

(2) Overtime hours worked __________

(3) Overtime rate __________

(4) Salary lost __________

(5) Total wages __________

INTEREST PROBLEMS

1. Find the interest on $500 at 6% for 1 year.
2. Find the interest on $1,500 at 5% for 2 years.
3. Find the interest on $470 at 6% for 6 months.
4. Find the interest on $900 at 4-1/2% for 3 months.
5. At what rate of interest will $5,000 yield $1,100 interest in 5-1/2 years?
6. At what rate of interest will $2,150 yield $150.50 interest in 2 years?
7. At what rate of interest will $4,050 yield $1,336.50 interest in 6 years?
8. What principal will yield $96 interest in 3 years at 4%?
9. In what time will $500 gain $56.25 interest at 4-1/2%?
10. In what time will $25,000 gain $4,125 interest at 5-1/2%?
11. Find the amount when $300 is loaned for 3 years at 6% with interest compounded annually.
12. A man borrowed $9,000 to make repairs on a house. The bank charged him interest at the rate of 4%. If he paid back the loan in 10 years, what was the total interest?
13. If you borrow $950 for 2 years at 5% interest, what is the amount?
14. If you lend $400 at 4% interest, find the interest for 1-1/2 years.
15. Suppose you bought $2,000 worth of bonds which paid 6% interest every year. How much money in interest would you make in 5 years?

FUNDAMENTAL CONCEPTS

Add the following:

1. \$.03 + \$5 + \$7.20 + \$38 + \$5.60 + \$32.17
2. \$8.13 + \$11.29 + \$6.70 + \$4 + \$23.33

Subtract:

3. \$.92 - \$.60   4. \$4.80 - \$2   5. \$21 - \$.56

Multiply and round off correct to the nearest cent:

6. 89 x \$.35   7. .08 x \$.43   8. 9.4 x \$3.80

Divide:

9. 229.6 ÷ 28   10. 456.5 ÷ 18.26

Change these decimal fractions to common fractions:

11. .04   12. .72   13. .875

Change these common fractions to decimal fractions:

14. 1/8   15. 1/5   16. 3/5   17. 3/8

Change the following percents to decimals:

18. .04328%   19. 1/2%   20. 23.02%

BUDGETS

Complete the following charts.

A single working person with a weekly income of $120.

	Category	Percent	Amount
1.	Housing	22%	
2.	Food	20%	
3.	Transportation	14%	
4.	Savings	10%	
5.	Clothing	12%	
6.	Entertainment	9%	
7.	Other	13%	

A high school student with a weekly income of $25.

	Category	Percent	Amount
1.	Food	24%	
2.	Clothing	20%	
3.	Savings	10%	
4.	Recreation	18%	
5.	Personal	16%	
6.	Other	12%	

A family of four with a monthly income of $800.

	Category	Percent	Amount
1.	Rent	22%	
2.	Food	28%	
3.	Transportation	14%	
4.	Savings	10%	
5.	Entertainment	8%	
6.	Personal	5%	
7.	Clothing	13%	

FINDING A PERCENT OF A NUMBER

Find each number. Round off each number correct to the nearest cent.

1. .3% of $126
2. 28% of $412
3. 80% of $55
4. 61% of $.93
5. 6% of $29
6. 12% of $71.18
7. 1% of $2.35
8. 3-1/2% of $15
9. 9.2% of $20
10. 125% of $40
11. 25% of $16
12. 33-1/3% of $75
13. 8% of $.60
14. 7% of $1.06
15. .5% of $128

FIGURING WAGE INCOME

1. Last week, Owen Rand earned $149.20, 1/8 of which was overtime earnings. How much were his overtime earnings?

2. John Snow earned overtime wages last week that were 1/12 as large as his regular-time wage of $82.80. How much overtime wages did he earn?

3. Last week Terry Sanko earned 1/6 more than his usual pay by working overtime. Terry's usual pay is $128.76 per week. How much was Terry's pay last week?

4. Luke Tobin left his $3.60 an hour job at Ferris Gear, Inc., to work at Romco Foundry for 1/4 more per hour. What rate was he paid at Romco?

5. E. Toll now earns a salary 1/8 greater than her old salary of $8,112 per year. What is Toll's new salary?

6. Pedro Alvarez just received a raise of $15 per week giving him a salary of $180. What part of his new salary is his raise?

7. A salary of $415 a month is equal to how much a year?

8. $8,372 a year is equal to how much a week?

9. Hal Brook's new job pays 1/6 less per hour than his previous job. Hal's old job paid $4.26 per hour. What does Hal's new job pay per hour?

10. The employees of the Upland Steel Co. are paid weekly on the basis of a 40 hour week with time-and-a-half for overtime. Find the total wages earned in one week by Earl Tella who works 45 hours and whose regular wage rate is $4.17 an hour.

PERSONAL SERVICES CLUSTER PROBLEMS

1. Find Mary's weekly income if she worked 38 hours at $4.75 per hour.

2. Income tax is withheld at the rate of $1,942 plus 23% of the wage over $10,500. Find the tax on $12,000.

3. How much social security is withheld from $188 at the rate of 5.85%?

4. Find the simple interest on $500 at 6% for 3 years.

5. Marlene has $178.56 in her checking account. She deposited $58.70 and wrote checks for $25.40 and $86.98. What was her new balance?

6. Mr. Barnes borrowed $2,000 from his credit union for 3 years. His monthly payments were $66.43. How much interest did he pay?

7. Jill bought a coat on sale at 15%. If the regular price was $40 and she paid 5% sales tax. How much did she spend?

8. A man bought a life insurance policy costing $25.53 per $1,000 per year. How much did he pay in 10 years for an $18,000 policy?

9. Find the down payment needed to buy a $387 washing machine if a 12% down payment is required.

10. Bob pays monthly premiums of $31.27 for a $12,000 20 payment life policy. How much will he pay for the insurance if he pays premiums for the entire 20 years?

ENGLISH COMPOSITION -
ADVANCED

CURRICULUM CONCEPT

CLUSTER MATRIX

Course English Composition-Advanced

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Grammar and Usage			X			X							X		
Spelling and Vocabulary			X			X							X		
Capitalization and Punctuation			X			X							X		
Sentence Structure			X			X							X		
Composition/Paragraphs & Longer			X			X							X		
Oral Composition			X												
Research Paper						X									

COURSE RELATIONSHIP TO THE GOALS
FOR CAREER EDUCATION IN CALIFORNIA

Course English Composition - Advanced

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.			X			X								X	
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.			X			X								X	
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.			X			X								X	
4. Recognize that educational experiences are a part of total career development and preparation.			X			X								X	
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.															
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.															
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.			X			X								X	
8. Gain career orientation to increase exposure to the options available in the world of work.			X			X								X	
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.			X			X								X	
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.															

ENGLISH COMPOSITION - ADVANCED

COMMUNICATIONS AND MEDIA CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Written Composition/ Sentence Construction . The Sentence . The Paragraph . The Lengthier Composition	I. A. Write clear, concise and complete sentences. B. Stress unity, coherence, and emphasis in his paragraphing techniques.	I. The student will understand the variety of occupations found in the field of communications and the various media.	I. Know the detailed characteristics of the communications field.	I. Teacher lecture and class discussion covering the variety of occupations in the Communications and Media Cluster with an emphasis upon radio and TV broadcasting
	C. Concentrate on adequate development through facts, examples, incidents, etc. which is commensurate with the time and length limitations of his various assignments.	II. The student will determine the worker qualifications related to performing the basic tasks of various occupations in the Communications Cluster.	II. A. Identify the training and methods of entry related to specific occupations in the Communication Cluster.	II. The student will complete and report to the class a career exploration on a specific career from the field of communications and media.
II. Written Compositional/ Mechanics Capitalization Punctuation Spelling Manuscript Form	II. A. Be held accountable in all written work to a compliance with the various conventions referred to as "writing mechanics."		B. Identify worker traits related to successful performance in specific occupations in the Communications Cluster.	
III. Writings for oral presentation such as the factual and interpretational features typical of a modern TV Newscast	III. A. Be evaluated in this assignment in the following categories: Content Unity Coherence Emphasis Delivery Pronunciation Enunciation Eye Contact Ease of manner	III. A. The student will develop the skills required to identify the objectives of a task, specify resources required, outline procedures, perform operations and evaluate the product. B. The student will develop an understanding of the interpersonal relationships resulting from the interaction of people in various occupational roles.	III. A. Apply problem-solving skills to occupations in the Communications Cluster. B. Demonstrate the ability to select tools, materials, and proper group size for use in a communications situation. C. Plan and execute a project and observe that evaluation and replanning are necessary during execution. D. Understand that relative levels of responsibility can influence interpersonal relationships.	III. A. The students will put on an actual TV newscast in cooperation with the teacher and using the facilities of the school's TV journalism laboratory. B. The object of the project will be to involve every member of the class in some aspect of the video taping. C. The technical jobs such as the director, associate director, floor manager, cameraman will be provided by the TV journalism teacher from among his experienced students. D. Class discussion will center upon the professional and technical jobs involved in TV broadcasting to highlight the occupational tasks involved and the level and mode of interaction and interdependence among them.
IV. Listening Skills Member of Audience	IV. A. Sharpen his listening skills by being required to comment upon and help evaluate the oral presentations of fellow students, guest speakers, etc. during the course of this unit.			
One-on-one situation as in the role of an interviewer	B. Be required in the course of a field trip or on his own to interview a worker in the cluster under study and report either in writing or orally the major points of his investigations.			

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
				E. The composition teacher will assign the following: 1. International news 2. National news 3. Local news 4. News close-up 5. In-depth report 6. Sports 7. Sports close-up 8. Human interest feature 9. Show biz review 10. Music world 11. Movie review The student writer of the various features will use commercial radio and TV as well as current newspapers and magazines for source material but they will rewrite and edit to render the material appropriate to the project.
				F. The students will write a follow-up commentary and evaluation of themselves and the project. They will cover the following items: . Brief description of preparations involved Greatest problem encountered (Solved? How? If not, why not?) . Greatest gain from the project (knowledge & emotional insights) . Suggestions for improvements in the areas of preparation and performance . Any other comments
				G. Field trip to a local TV facility to allow students face-to-face contact with various workers in this particular field.

ENGLISH COMPOSITION - ADVANCED

ENVIRONMENTAL CONTROL CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Expository Writing The general purpose of this type of writing is to enlighten and instruct. Its essential quality is clarity. The specific type of exposition emphasized in this unit will be factual reporting.	I. Recognize and perform the following: . Select a topic that can be adequately treated within the limits of the composition. . Assemble and arrange materials in a logical order to involve at least an informal outline. . Write the first draft to include clear, purposeful introduction with a summary or reemphasis of a major point at the end; pay attention to proper paragraphing and transitional techniques. . Revise and highlight the following: . relevancy of ideas . clarity, conciseness, and variety of sentence structures . spelling . punctuation . capitalization . Judge the final copy not only on content but also on adherence to correct manuscript form.	I. The student will understand the way in which occupations relate to the changing needs and functions in society.	I. Identify certain trends in employment in recent years with some implications for his own career planning.	I. A. The student will write a 150 word paragraph stating the significant facts revealed in a graph showing the facts and trends in employment over the last 60 year period. (Refer: Warriner's English Grammar and Composition, Complete Course, pages 437 and 438)

ENGLISH COMPOSITION - ADVANCED

ENVIRONMENTAL CONTROL CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
II. Research Paper While most research papers are purely informational, this one will emphasize the writer's attempts to reach conclusions, specifically in reference to his personal career goals.	II. A. Write a minimum of ten pages (six typed) exemplifying information on a specific career, coupled with relevant personal data for the purpose of reaching a career decision, albeit tentative in nature. B. Follow the usual steps in writing such a paper as follows: . Select a topic (his chosen career) . Prepare a working bibliography including personal interviews . Outlining, reading, and taking notes . Writing the first draft . Writing the final, revised draft with footnotes and bibliography	II. The student will become more familiar with the variety of occupations available in the world of work.	II. Research at least two occupations in the Environmental Control Cluster.	II. A. The students will be given the option of some form of oral composition to present their findings on one of the Environmental Control occupations which they have chosen to research. The other must be written in a 300 - 500 word composition.
		III. The student will become proficient in identifying and using resource information in making career decisions.		III. A. The reports, both oral and written should include the following information: . Value priorities of the career . Job activities of workers in the career . Relationships with data, people, and things . Aptitudes and abilities needed . Personal qualities required . Educational and training requirements . Salaries and fringe benefits of the career Refer: "Succeeding in the World of Work" by Grady Kimball and Ben Vineyard. McKnight Pub. Co. 1975.

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
			The student will be able to:	
		IV. The student will understand that decision making includes responsible action in identifying alternatives, selecting alternatives most consistent with their goals, and taking action.	IV. A. Examine the interrelatedness of occupations within his chosen career cluster to appreciate the close alternatives available.	IV. A. The student will give evidence in his notes of exploration into at least one additional occupation besides the one ultimately chosen.
			B. Evaluate his choice in relationship to his personal value system and goals, both immediate and long-range.	B. The student will include in his brochure of notes brief statements of his values and goals most critical to his specific career choice.
			C. Justify his career choice in the following areas: . work activities vs personal interest and enjoyment . personal preferences for working with data, people or things . personal qualities necessary for successful relationships on the job . education and training acceptable . other influences such as parents, friends, available finances, marital status, etc.	C. The student will visit the career center to obtain the results of any interest and aptitude surveys he may have taken.
				D. With the help of teacher and counselors, the student will attempt to evaluate his preference for working with data, people, or things separately and in combination and attempt to give reasons for choices based upon the students' attitudes toward each.
			F. The student should gain insights into his chosen career by way of personal interviews with people already employed in the occupations.	E. The student's bibliography ought to give evidence of exploration into printed materials on careers available at the career center such as the following: . Dictionary of Occupational Titles . Occupational Outlook Handbook (latest edition available) . Various books and pamphlets

ENGLISH COMPOSITION - ADVANCED

PUBLIC AND SOCIAL SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. The Sentence Students will be reminded of the need to write complete sentences, avoiding both fragments and run-on errors. Attention will be given to both phrase fragments and subordinate clause fragments. The so-called "comma fault" will be explored as the most frequent cause of "run-on" sentences.	I. A. Define and identify the basic elements of a sentence. B. Define and identify the parts of speech, commonly used phrases and clauses C. To identify and correct any fragmentary or run-on writing in textbook exercises and in their own writing.	SELF AWARENESS 1. Students will recognize the relationships of his interests, aptitudes and achievements to the realization of his career goals.	1. a. Evaluate successes and failures in his educational program and develop an understanding of occupations in which he might be successful. b. Ultimately use his emerging interests, aptitudes and achievements in making career choices.	1. a. Complete a Biographical Data Sheet cf. Supplement A-16. b. Vocational and guidance counsellors as guest speakers or resource people at the Guidance Center to help in interpreting test results or directing students to appropriate vocational information.
		2. Students will recognize that knowledge is related to a set of values unique to him. 3. Students will learn to establish (although tentative) personally relevant goals.	2. a. Understand that his values are characteristic of his culture.	2. a. Class discussion to define the term "value". Relation of values to decisions? Which values for which decisions? Why no "right answers" for everyone facing the same decision? b. Given a hypothetical situation, students will be guided to see that actions rather than words indicate values. c. Each student will write his own definition of the term "value". d. Each student will attempt to identify his own personal value system by completing the following activities: . Students chart five or more free personal choices made in the last week and name the possible values which may have influenced each choice. . Complete three statements beginning with the words "I am proud that __________.
II. Coordination and Subordination Students will be made aware of the techniques of coordination and subordination to make clear the relationships existing between and among the various ideas in a sentence.	II. A. To make clear the relationship between the ideas in coordinate clauses by using connectives which express the relationship exactly. B. To make clear the relationship between subordinate clause content and independent clause content by selecting subordinate conjunctions which express the relationship exactly. C. To use adjective clauses to show relative emphasis between ideas in a complex sentence. D. To recognize examples of faulty coordination; and, through judicious use of the complex sentence, correct this type of writing fault.		3. a. Identify career choices in society in relation to his unique abilities and interests and values. b. Understand the importance of reacting rationally rather than emotionally to a problem. c. Realize that what he believes influences what he becomes.	

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:			
III. Clear Pronoun Reference Clear reference between pronouns and antecedents will be highlighted as a "must" for clear writing. The causes of awkward expressions will be examined.	III. A. Recognize the ambiguities, over-generalizations, and weaknesses in their writing caused by faulty pronoun reference B. See that unnecessary shifts from one subject to another, as well as from one verb form to another within one sentence causes awkwardness and lack of smoothness in expression.			. Write short (150 word max.) paragraphs on the following topics: Things I do well My "psychological" home My greatest success Three people most influential in my life An activity, if I had but one year to live Three words I would like said of me
IV. The Style The student will be counselled to strive for sentence conciseness, avoiding wordiness and the "over written" style.	IV. A. To avoid superfluous words and unnecessary repetition of ideas. B. To accomplish brevity of expression by reducing clauses to phrases and phrases to single words wherever feasible. C. To write naturally without straining after a "literary" effect.			3. a Students will state personal objectives by changing values into objectives as follows: Apply the following criteria to sample statements of objectives to determine their clarity. Does it make clear what I can do when I reach it? Does it indicate a time by which I should reach it?
V. Paragraphs and Longer Compositions The elements of an effective paragraph will be explored. Emphasis will be given to the importance of a clearly-stated topic and to the quantity and quality of supporting sentences employed. Various methods of developing a topic will be considered. Attention will be drawn to the concepts of paragraph unity and coherence.	V. A. Identify the topic sentence in selected writings (both professional and student) regardless of its placement in the paragraph. B. Write paragraphs (150 word max.) exemplifying at least three different methods of topic development. C. Identify irrelevant material in selected paragraphs (both professional and amateur). D. Write two paragraphs exemplifying two methods of insuring coherence and logicality.			State three clear objectives for himself with at least one related to a specific career. Students will then write one or two possible actions designed to aid in the accomplishment of a given objective.

ENGLISH COMPOSITION - ADVANCED

PUBLIC AND SOCIAL SERVICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
		CAREER AWARENESS 1. Students will determine the worker qualifications related to performing the basic tasks of his chosen career cluster.	1. a. Identify training and method of entry related to specific careers in the Public Service Cluster. b. Identify the worker traits related to successful performance in various Public Service Cluster careers.	1. a. Guest speaker from an area within the Public Service cluster as indicated by student interest and availability. b. Students research at least two occupations in the Public Service cluster designated by the teacher as related to language study. cf. Supplement #2. c. Students write two compositions (100-150 words) outlining the training, method of entry and worker traits related to successful performance. d. Students will accomplish a task project connected with one of their chosen occupations from the cluster under study, e.g. Junior High Teacher - prepare a lesson plan; Public Information Officer - write a press release, etc. cf. Supplement #2.

- -

Gelat, H.B.; Varenhorst, Barbara; Carey, Richard; Deciding; College Entrance Examination Board; New York, 1972

Occupational Outlook Handbook
U.S. Dept. of Labor, Washington, D.C.

Warriner's English Grammar and Composition, rev. ed. 1965. Harcourt, Brace & World Inc.

Careers in Focus Series
McGraw-Hill Book Co., 1976

Chronical Occupational Library
Chronicle Guidance Pub. Inc., 1977

Developmental Program Goals for the Comprehensive Career Education Model, Ohio State Univ., 1972

Dictionary of Occupational Titles, U.S. Printing Office, Washington, D.C.

ENGLISH COMPOSITION - ADVANCED

Supplement #1

Following is a list of occupations within the Public and Social Service Cluster. Each has been chosen because of its relevancy to language arts study in some way.

	OCCUPATION		TASK
1.	Junior High Teacher	1.	Prepare a lesson plan.
2.	Elementary Teacher	2.	Lead instructional activity.
3.	Librarian	3.	Make catalogue cards.
4.	Family Service Worker	4.	Complete client interview summary form.
5.	Public Information Officer	5.	Write a press release.
6.	Lawyer	6.	Advise a client.
7.	Notary Public	7.	Decide what may be notarized.
8.	Minister	8.	Prepare a sermon.
9.	Guidance Counsellor	9.	Handle a problem student.
10.	Community Youth Worker	10.	Advise a teen-ager with a problem.
11.	Placement Officer	11.	Conduct an interview.
		12.	Other (instructor approved)

SPELLING AND VOCABULARY

CURRICULUM CONCEPT

CLUSTER MATRIX

Course Spelling and Vocabulary

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Home-making Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
Spelling		X		X		X						X			X
Definition/Meanings		X		X		X						X			X
Use in Sentence		X		X		X						X			X
Pronunciation		X		X		X						X			X

COURSE RELATIONSHIP TO THE GOALS
FOR CAREER EDUCATION IN CALIFORNIA

Course Spelling and Vocabulary

	Agri-Business & Natural Resources	Business & Office	Communications & Media	Construction	Consumer & Homemaking Related	Environmental Control	Fine Arts & Humanities	Health	Hospitality & Recreation	Marketing & Distribution	Manufacturing	Marine Science	Personal Services	Public Services	Transportation
1. Develop early a continuing awareness of career opportunities and relate these opportunities to personal aptitudes, interests, and abilities.		X		X		X						X			X
2. Develop a positive attitude toward self and others, a sense of self-worth and dignity, and motivation to accomplish personal goals.		X		X		X						X			X
3. Develop a positive attitude toward work and appreciate its contribution to self-fulfillment and to the welfare and productivity of the family, community, the nation and the world.		X		X		X						X			X
4. Recognize that educational experiences are a part of total career development and preparation.		X		X		X						X			X
5. Develop an understanding of the U.S. economic system and become aware of the relationship of productive work to the economy and to one's own economic well-being.															
6. Achieve sufficient economic understanding and consumer competencies to make wise decisions in the use of one's resources.		X		X		X						X			X
7. Engage in the career development process by increasing self-knowledge, knowledge of the world of work, and knowledge of the society that affects it; and by accepting responsibility for a series of choices that carry one along the career development continuum.		X		X		X						X			X
8. Gain career orientation to increase exposure to the options available in the world of work.		X		X		X						X			X
9. Plan and participate in a program of career exploration contributing to personal and career satisfaction.		X		X		X						X			X
10. Acquire salable skills leading to entry-level employment in one or more occupations and in-depth exposure to the world of work designed to provide the general skills needed to enhance the employability of the individual.		X													

SPELLING AND VOCABULARY

BUSINESS AND OFFICE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
1. Spelling	1. Spell correctly the terms associated with work applications	Familiarization with twenty-five (25) terms commonly found on work applications: application salary personal not applicable (N/A) citizenship dependents spouse physical compensation employment job title supervisor military selective service classification discharge education degree major extra-curricular activities special skills qualifications references termination experience emergency	1. Satisfactorily complete a typical application with accuracy, clarity, and completeness. (See Supplement A-19)	1. Student will go into the community and apply for a work position locally
2. Definition/Meanings	2. Define and recognize meanings of terms associated with work applications		2. Understand all phases of the application	2. Student will obtain applications from various businesses within the community to observe different formats found on applications, noting changes according to type of work involved
3. Use in Sentence	3. Construct sentences using work application terms in their proper context		3. Orally explain each part of the common application	3. Guest speaker from any local personnel office to explain: a. What does the company look for on an application? b. How applications are "paper-screened", processed and handled c. How extensively is the information on the application researched (references, criminal record, etc.)? d. What follow-up is expected from the applicant?
4. Pronunciation	4. Pronounce correctly all terms within this unit		4. Develop own response to items found on an application	4. Film strip on the process of obtaining a job

SPELLING AND VOCABULARY

CONSTRUCTION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCE
	Student will be able to:		Student will be able to:	
I. Spelling	I. Spell correctly the entry/related/variant words to each unit.	Familiarization with the Construction Cluster, to include:	I. Identify and recognize major groupings and titles within the Construction Cluster	I. Career Exploration (once weekly): . Mini-briefs . O.E.K. . D.O.T. . Chronicle Guidance . Occupational Library
II. Definition/Meanings	II. Recognize meanings and shades of meanings to words in each unit.	. General description of cluster	II. Spell correctly and define at least ten words/job titles indigenous to the Construction Cluster	II. Field trips/guest speakers
III. Use in Sentence	III. Construct sentences utilizing words from respective units.	. Major groupings within cluster: . Wood . Metal . Masonry . Electrical . Finishing . Heavy Equipment Operations . Engineering & Support Services	III. Gain insight on temperament, interest, and abilities common to members of the cluster.	III. Film strips/Audio-Visual material
IV. Pronunciation	IV. Pronounce correctly all words within each unit.		IV. Increase self-awareness through use of self-inventory tests.	IV. Construct ten-word Spelling & Vocabulary list of words indigenous to this cluster.
	V. Complete one unit from text per week. To include: A. Oral pronunciation B. Drill work and Practice Sets in text C. Related Composition/Creative Writing assignments D. Completion of Unit Review Worksheet (See Sample Supplement - Construction Unit) E. Weekly exam	. Specific jobs within the cluster (Supp. B-13)	V. Compare own qualities with those required by members of the cluster.	V. Construct an extended definition on any term within this cluster.
			VI. Gain career awareness of major groupings and specific jobs.	

UNIT 1
SPELLING & VOCABULARY

NAME ______________________________

Entry Words	Definition	Use in Sentence	Related/Depth
abolish			
ambush			
adapt			
admonish			
curtail			
acquire			
divulge			
implore			
coerce			
affirm			
deplore			
defer			
extract			
contour			
guile			
jargon			
labyrinth			
medley			
rapture			
robot			
verge			
zephyr			

SAMPLE SUPPLEMENT

SPELLING AND VOCABULARY

ENVIRONMENT CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Spelling	I. Spell correctly the entry/related/variant words to each unit.	Familiarization with the Marine Science Cluster, to include:	I. Identify and recognize major groupings and titles within the Environment Cluster	I. Career Exploration (once weekly): . Mini-briefs . O.E.K. . D.O.T. . Chronicle Guidance . Occupational Library
II. Definition/Meanings	II. Recognize meanings and shades of meanings to words in each unit.	. General description of cluster	II. Spell correctly and define at least ten words/job titles indigenous to the Environment Cluster	II. Field trips/guest speakers
III. Use in Sentence	III. Construct sentences utilizing words from respective units.	. Major groupings within cluster: . Pollution Prevention & Control . Disease Prevention . Environment Planning . Resource Control	III. Gain insight on temperament, interest, and abilities common to members of the cluster.	III. Film strips/Audio-Visual material
IV. Pronunciation	IV. Pronounce correctly all words within each unit.		IV. Increase self-awareness by self-inventory of interests through use of self-inventory tests.	IV. Construct ten-word Spelling & Vocabulary list of words indigenous to this cluster.
	V. Complete one unit from text per week. To include: A. Oral pronunciation B. Drill work and Practice Sets in text C. Related Composition/Creative Writing assignments D. Completion of Unit Review Worksheet (See sample supplement - Construction Unit) E. Weekly exam	. Specific jobs within the cluster (see Supplement B-16)	V. Compare own qualities with those required by members of the cluster.	V. Construct an extended definition on any term within this cluster.
			VI. Gain career awareness of major groupings and specific jobs.	

SPELLING AND VOCABULARY

MANUFACTURING CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	The student will be able to:		The student will be able to:	
I. Spelling	I. Spell correctly terms commonly associated with employment.	Familiarization with thirty (30) terms commonly associated with employment: duties labor credential license benefits sick leave pension retirement vacation overtime promotion union interview termination aptitude training apprentice journeyman attitude management trainee personnel foreman leadman supervisor manager Social Security employee employer occupation	I. Satisfactorily explain each of the thirty (30) terms listed and their application to the world of work.	I. Guest speaker from any occupation explaining the application of terms to his or her line of work.
II. Definitions/Meanings	II. Define and recognize meanings of terms commonly associated with employment.		II. Understand the value in being aware of thirty terms commonly associated with employment.	II. Research any three particular occupations and determine which of the thirty terms apply to the obtaining, training and culmination of that occupation.
III. Use in Sentence	III. Construct sentences using employment terms in their proper context.		III. Trace going "up the ladder" in a job the student is now working in (if employed) or in any chosen occupation (if unemployed). To include: . hiring process . training procedure . promotional possibilities . retirement system	III. Construct an extended definition of one of the thirty terms, to be shared in class.
IV. Pronunciation	IV. Pronounce correctly all terms within this unit.			IV. Film strip on the process of obtaining a job

SPELLING AND VOCABULARY

MARINE SCIENCE CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
1. Spelling	1. Spell correctly the entry/related/variant words to each unit.	Familiarization with the Marine Science Cluster, to include: . General description of cluster . Major groupings within cluster: .Research .Fishing .Mineral & Chemical Extraction .Aquaculture .Off-Shore Drilling .Marine Technology & Engineering .Surface & On-Shore Support . Specific jobs within cluster (see Supplement B-45)	1. Identify and recognize major groupings and titles within the Marine Science Cluster.	1. Career Exploration (once weekly): .Mini-briefs .O.E.K. .D.O.T. .Chronicle Guidance Occupational Library
2. Definition/Meanings	2. Recognize meanings and shades of meanings to words in each unit.		2. Spell correctly and define at least ten words/job titles indigenous to the Marine Science Cluster.	2. Field trips/guest speakers
3. Use in Sentence	3. Construct sentences utilizing words from respective units.		3. Gain insight on temperament, interest, and abilities common to members of the cluster.	3. Film Strips/Audio-Visual material
4. Pronunciation	4. Pronounce correctly all words within each unit.		4. Increase self-awareness by self-inventory of interests through use of self-inventory tests.	4. Construct ten-word Spelling & Vocabulary list of words indigenous to this cluster.
	5. Complete one unit from text per week. To include: a. Oral pronunciation b. Drill work and Practice Sets in text c. Related Composition/Creative Writing assignments d. Completion of Unit Review Worksheet (See sample Supplement - Construction Unit) e. Weekly exam		5. Compare own qualities with those required by members of the cluster.	5. Construct an extended definition on any term within this cluster.
			6. Gain career awareness of major groupings and specific jobs.	

SPELLING AND VOCABULARY

TRANSPORTATION CURRICULUM UNIT

CURRICULUM CONCEPT	CURRICULUM OBJECTIVE	CAREER CONCEPT	CAREER OBJECTIVE	ACTIVITIES & RESOURCES
	Student will be able to:		Student will be able to:	
I. Spelling	I. Spell correctly the entry/related/variant words to each unit.	Familiarization with the Transportation Cluster, to include: . General description of the cluster . Major groupings within the cluster . Highway Transport . Rail Transport . Airborne Transport . Pipeline Transport . Water Transport . Specific jobs within cluster (see Supplement B-57)	I. Identify and recognize major groupings and titles within the Transportation Cluster.	I. Career Exploration (once weekly): . Mini-briefs . O.E.K. . D.O.T. . Chronicle Guidance . Occupational Library
II. Definition/Meanings	II. Recognize meanings and shades of meanings to words in each unit.		II. Spell correctly and define at least ten words/job titles indigenous to the Transportation Cluster.	II. Field trips/guest speakers
III. Use in Sentence	III. Construct sentences utilizing words from respective units.		III. Gain insight on temperament, interest, and abilities common to members of the cluster.	III. Film strips/Audio-Visual material
IV. Pronunciation	IV. Pronounce correctly all words within each unit.		IV. Increase self-awareness through use of self-inventory tests.	IV. Construct ten-word Spelling & Vocabulary list of words indigenous to this cluster.
	V. Complete one unit from text per week. To include: A. Oral Pronunciation B. Drill work and Practice Sets in text C. Related Composition/Creative Writing assignments D. Completion of Unit Review Worksheet (see sample Supplement - Construction Unit) E. Weekly exam		V. Compare own qualities with those required by members of the cluster.	V. Construct an extended definition on any term within this cluster.
			VI. Gain career awareness of major groupings and specific jobs.	

APPENDIX A

SUPPLEMENTAL ACTIVITIES -

GENERAL

This appendix contains supplements that are of a general nature. They are placed here without regard to a particular course or occupational cluster. The individual supplements are referred to in the various curriculum units, however, they are placed here in order to facilitate the adaptation to any other unit.

FIELD TRIP AND/OR GUEST CAREER SPEAKER

Student ______________________________

Subject ______________________________

Date __________ Grade ______ Period _____

RESOURCE SPEAKER

Guest Speaker's Name ______________________

Topic ______________________________

FIELD TRIP

Guide's Name ______________________

Site Visited ______________________

List the eleven major points covered by the speaker:

1. Education and/or training needed ______________________________
____
2. Examination and/or licensing requirement(s) ______________________
____
3. Description of duties ______________________________
____
4. Salary ______________________________
____
5. Fringe benefits ______________________________
____
6. Chance for advancement ______________________________
____
7. Responsibility ______________________________
____
8. Creativity on the job ______________________________
____
9. Special psychological, health, or physical requirements ______________
____
10. Personal values necessary for success on the job ______________
____
11. Future employment opportunities ______________________________
____

SUGGESTED OUTLINE GUIDE

FOR

FIELD TRIPS AND RESOURCE SPEAKERS

Preparatory outline is to be used by students prior to taking field trips or listening to guest speakers. Also contained herein are follow up sheets with student response to speaker and/or field trip.

I. Description of the job (occupation)

  A. Brief history and development of this work
  B. Work performed

II. Employment prospects and trends in this field or work

  A. What needs are there for workers (increasing or decreasing demands)
  B. Where are these jobs to be found (geographical regions)
  C. Industries using workers with these skills

III. Qualifications profile

  A. Personal factors
  B. Educational needs
  C. Specific vocational preparation needed
  D. Aptitudes required
  E. Essential interest (describe in detail)
  F. Temperaments for success on the job
  G. Physical demands (required activities)
  H. Regulations

IV. Working conditions (physical environment)

  A. Inside, outside, or both
  B. Extremes of temperature change
  C. Noise and vibration
  D. Hazards (risk of bodily injury)
  E. Fumes, odors, toxic conditions, dust and poor ventilation
  F. Hours (day, swing, nights, weekends, holidays, etc.)

V. Obtaining the job

  A. How it is found (initial contacts)
  B. Applying for the job

VI. Compensations in this work

  A. Opportunity for service to humanity
  B. Advancement possibilities
  C. Financial rewards

VII. Other

639

PRE-TEST

This is a timed test. You have two minutes to list as many jobs as you can. When the teacher announces "time", please turn over your paper.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

16.

17.

18.

19.

20.

CAREER EXPLORATION WORKSHEET

STUDENT ______________________ CLASS ____________ DATE ________

CAREER TITLE: ______________

1. JOB DESCRIPTION:

2. EDUCATION OR TRAINING REQUIREMENTS:

3. SALARY RANGE & BENEFITS:

4. OPPORTUNITIES FOR ADVANCEMENT:

5. SOURCES OF INFORMATION:

6. RECOMMENDED HIGH SCHOOL COURSES:

Major Coursework: Supportive Coursework:

1. List 3 sources of career information or job opportunities you found at the school library.

____

____

____

2. What kind of information did you find in each one?

____

____

____

3. Would you be able to find this information from a public library? __________

Any other public places? __________ List them ______________________

____

____

Any other private places? __________ List them ______________________

____

____

4. Do any of these places charge you or the employer a fee for information about a job or assistance in securing one? ______________

List them ______________________

____

____

5. What are the advantages and disadvantages of an employment agency that charges a fee for securing a job for you?

Advantages	Disadvantages
______________________	______________________
______________________	______________________
______________________	______________________

FINE ARTS AND HUMANITIES

Examples of the Use of Art in the Business Community

1. Location: ______________________________

____

Description: ______________________________

____

____

2. Location: ______________________________

____

Description: ______________________________

____

____

3. Location: ______________________________

____

Description: ______________________________

____

____

4. Location: ______________________________

____

Description: ______________________________

____

____

5. Location: ______________________________

____

Description: ______________________________

____

____

PRIMARY CHOICE JOB TITLE ____________________

RELATED JOB TITLE	HOW RELATED

In the space below write a brief description of the way or ways your personality matches one of your primary or related job choices.

CAN YOU FOLLOW DIRECTIONS?

This is a timed test--You have three minutes only.

1. Read everything carefully before doing anything.
2. Put your name in the upper right hand corner of this paper.
3. Circle the word "NAME" in sentence two.
4. Draw five small squares in the upper left hand corner.
5. Put a circle around each square.
6. Sign your name under the title of this paper.
7. Put an "A" in each of the five squares.
8. After the title of this paper, write YES YES YES.
9. Put a circle completely around sentence number seven.
10. Put an "X" in the lower left corner of this paper.
11. Draw a triangle around the "X" you just put down.
12. On the bottom of this paper, multiply 33 by 3.
13. Draw a rectangle around the word "CORNER" in sentence four.
14. Loudly call out your first name when you get this far.
15. If you think you followed directions carefully to this point, call out I HAVE.
16. On the reverse side of this paper, add 500 and 5000.
17. Put three small holes in the top of this paper with your pencil point or ball point pen.
18. If you are the first person to reach this point, LOUDLY call out, "I AM THE FIRST PERSON TO THIS POINT, AND I AM THE LEADER IN THE FOLLOWING OF DIRECTION."
19. Put a square around each written-out name for a number on this paper.
20. Underline all even numbers on the left side of this paper.
21. Loudly call out, "I AM NEARLY FINISHED. I HAVE FOLLOWED DIRECTIONS."
22. Now that you have finished reading everything carefully as directed in sentence one, DO ONLY sentence one and two.

SELF-AWARENESS TEST

1. My 2 favorite subjects are ____________________ and ______________________.

   My 2 least favorite subjects are ______________ and ______________________.

2. The 2 subjects in which I receive the best grade are ______________________

   and _______________________.

3. I like to work with: (number in order of preference, 1 through 6)

   ___ people
   ___ words
   ___ numbers
   ___ things
   ___ details
   ___ mental pictures

4. I feel my best abilities lie in these areas: (number in order of preference, 1 through 13)

   ___ artistic
   ___ musical
   ___ math
   ___ scientific
   ___ language
   ___ mechanical
   ___ manual
   ___ teaching
   ___ leadership
   ___ clerical
   ___ persuasive
   ___ office
   ___ compatibility

5. My future plans include: (check appropriate response)

   ___ four year college or university
   ___ two year community or junior college
   ___ vocational or technical school
   ___ armed services
   ___ on-the-job training
   ___ no additional training
   ___ uncertain

6. The values that I consider most important are: (number in order of preference, 1 through 9)

   ___ job security
   ___ prestige
   ___ salary
   ___ high achievement
   ___ work conditions
   ___ creativity
   ___ variety
   ___ independence
   ___ helping others

7. I like to work:
(check one in
each group.)

___ indoors
___ outdoors

___ alone
___ with others

___ at the same place
___ travel

___ regular hours
___ irregular hours

___ urban area
___ rural area
___ suburban area

___ in California
___ any other part of the country

Name ______________

8. I like to spend my leisure time doing ____________________________ and ______________________ and ______________________ and __________________.

9. My previous work experience includes ________________________________.

I liked the following about these jobs _____________________________.

I disliked the following about these jobs ___________________________.

10. The most important possession in my life now is ________________________.

The most important interest in my life is (name at least 2) _____________ and ______________________.

The most important activity is ____.

11. The most important people in my life are ________________________________.

12. Possible contacts I have for job purposes are (think of as many as you can) ____.

13. My most important goal to reach by the end of this year is ______________.

14. In 5 years I expect be be ____.

15. In 10 years I expect to be ____.

Newspaper Ads

1. Cut out 3 jobs in the newspaper's classified advertisements that interest you most. Paste each one on a piece of paper.
2. Make a list of 3 or 4 reasons why each of these jobs appeals to you. Some reasons would be: salary, variety, challenge, risk, physical activity, independence, travel, competition, interesting product (refer to self-awareness test Supp. A.)
3. What do you think this job would require in terms of previous training?
4. What do you think this job would require in terms of personal traits?
5. How do you fit the requirements for each job in terms of interest, training, and personal traits?

HEALTH OCCUPATIONS

Your Future In Medical Technology

SELF-EVALUATION TEST

Try to answer each of the following questions fairly:

1. Would you like to help doctors discover the cause of illness?
2. Do you like physiology, science, and mathematics?
3. Are you absolutely honest even when you have made a mistake?
4. Are you willing to give up good times in order to help other people?
5. Are you willing to do the same thing over and over when you know it is worthwhile?
6. Do you like to work with your hands, especially when you need a great deal of knowledge in order to know exactly what to do?
7. Do you like to read about scientists who have made great discoveries?
8. Do you consider "Microbe Hunters" by Paul De Kruif, a fascinating book?
9. Can you stand unpleasant sights and smells in order to help someone?
10. Are you able to work either with other people or by yourself?
11. Can you follow printed instructions without having anyone explain them?
12. Do you like to read about diseases and what doctors and scientists are doing to find cures?
13. Would you like to work with test tubes, microscopes, and other precision instruments?
14. Are you very careful in what you do, striving always to be absolutely accurate?
15. Would you like to be part of the medical team working in hospitals, clinics, doctors' offices, or research laboratories?
16. Are you willing to study hard for four years in college and a hospital laboratory, then continue to study after you start working?

AUTOBIOGRAPHY WORKSHEET

Define AUTOBIOGRAPHY:

Wrie a brief statement about yourself: age, height, weight, personality, etc.

1. List the members of your family and briefly tell what type of work they do, or have done:

2. What do you remember most clearly about your early childhood?

3. What do you remember most clearly about your experiences in elementary school? (Refers to grades K-6)

4. What subjects did you like best?
   Elementary School
   Why?

   Junior High School
   Why?

   Senior High School
   Why?

5. What teacher(s) did you like best?
   Elementary School
   Why?

   Junior High School
   Why?

   Senior High School
   Why?

6. When you are not in school, how do you spend your time? (Include fun things you do as well as work activities.)

AUTOBIOGRAPHY WORKSHEET

7. What do you like most about your present school?

8. Describe the most interesting person (adult) you know in your school. This could be someone you would like to know better or someone you dislike.

9. Describe any special interest or talent you have.

10. How would you describe yourself in terms of your physical appearance?

11. How do you think others describe you?

12. What type of work do you hope to do after high school or college?

13. Does the future look good for you? Why?

14. What is the one thing that could possibly hold you back and prevent you from getting what you want out of life?

BIOGRAPHICAL DATA SHEET

Perhaps your most valuable source of information is your own insight and understanding of your own experiences. Even now, you have had considerable experience; if you recognize this fact, you can bring your experience into your own thinking. It is suggested that you fill out this data sheet and keep it in a personal file. It can be an interesting and valuable aid in your analysis of your own experience. It may help you with every critical personal decision you face in the future.

School Experiences

Classroom experiences (your overall grades and grades in specific areas like English or math; courses you enjoy most and least; how you learn best, by reading, by writing, or by discussing; how well you organize your time for doing homework and other assignments) ______________________________

____

____

Activities outside of classroom (school clubs, athletics, school government, school services, awards) ______________________________

____

____

School-wide tests (results of school-wide tests you have taken that might give information about your ability to do academic work or tests that have measured what you have achieved in areas such as reading, language, arithmetic, social science, and spelling) ______________________________

____

____

Community Experiences

Organizations (church, clubs, musical groups, nonschool athletic teams, other)

____

____

____

Volunteer services (tutoring, hospital aide, coaching, ecology clean-up, other)

____

____

____

Employment (Part-time or occasional, babysitting, gardening, paper route, painting, other)

Personal Experiences

Things you like to do individually (hiking, stamp-collecting, playing musical instrument, reading, drawing, working on cars or motorcycles, sewing)

Things you would like to learn to do

Family and Friends

Things you do with your family (work at home or do chores, travel, entertainment, cooking, music, athletics)

Things you do with your friends (hiking, camping, athletics, hobbies of real interest)

Important Plans and Objectives

	For this year	For the future
For school		
For community		
Personal		
With family and friends		

RESUME'

Fill in the spaces below to complete your own resume':

Name: ______________________________

Address: ____

____

S. S. #: ________________

Telephone: ______________

Education: ____

____

____

Age: ________ Health: ________________

Weight: ______ Marital Status: ____________

Height: ______

Subjects Studied: ________________ ________________

________________ ________________

________________ ________________

Student Activities: ______________ ________________

______________ ________________

Special Skills: ____________________________________

____

Work Experience: ___________________________________

____

____

References: ____

____

____

PERSONNEL QUALIFICATION RECORD

APPLICATION FOR EMPLOYMENT

AN EQUAL OPPORTUNITY EMPLOYER

No employee, applicant, or candidate for promotion, training or other advantage (shift scheduling, premium-pay work; vacation scheduling and any other employment activity) shall be discriminated against (or given preference) because of race, color, religion, sex, age or national origin. Applicants must reapply at least once every two months to remain under consideration for employment.

Your application for employment will be processed as quickly as possible. Public Law 91-508 requires that we advise you that a routine inquiry may be made during our initial or subsequent processing which will provide applicable information concerning character, general reputation, personal characteristics and mode of living. Upon your written request, additional information as to the nature and scope of the inquiry (if one is made) will be provided to you.

PLEASE READ CAREFULLY -PRINT CLEARLY- ANSWER ALL QUESTIONS

Name in Full ____ (Last) (First) (Middle) U.S. Soc. Sec. No.

Address ____ (Number & Street) (City) (State) (Zip Code) Telephone

How long have you lived at this address? ____ How long have you lived in this area? ____

Applying for job as: ____ Full-Time ☐ Part-Time ☐ Date Available ____ Number of years Experience ____ Salary/Wage Expected ____

PERSONAL INFORMATION

Date of Birth (Mo.-Day-Year) ____ Other name under which you have worked ____ Are you legally able to work in this country? ____

IN CASE OF EMERGENCY NOTIFY:

NAME ____ (Last) (First) (Middle)

Address ____ (Number & Street) (City) (State) (Zip Code) Telephone

---

PHYSICAL INFORMATION

Ever have trouble with Feet or Back? ____ List Physical Defects ____

Any Serious Illnesses or injuries in past 5 years? ____

Have you been under Doctor's care during past 5 years? ____ Hospitalized? ____

List Major Surgery and Dates ____ Previous Workman's Compensation Claims? Yes ☐ No ☐

REFERENCES (PERSONAL) OTHER THAN RELATIVES

Name ____ (Last) (First) Occupation ____

Address ____ (Number & Street) (City) (State) (Zip Code) Telephone

Name ____ (Last) (First) Occupation ____

Address ____ (Number & Street) (City) (State) (Zip Code) Telephone

Name ____ (Last) (First) Occupation ____

Address ____ (Number & Street) (City) (State) (Zip Code) Telephone

---

CLERICAL EXPERIENCE

List Office Machines you can operate ____

Shorthand Speed ____ Typing Speed ____ Can you transcribe from dictating machine? ____

Summarize briefly other work experience, skills, training or qualifications. ____

EDUCATION

DATES ATTENDED

		Month	Year		
HIGH SCHOOL	From			Name ______	
	To			Address ______	Graduate? ______
COLLEGE OR UNIVERSITY	From			Name ______	Graduate or
	To			Address ______	Degree? ______
BUSINESS OR TECHNICAL	From			Name ______	Graduate or
	To			Address ______	Degree? ______
OTHER	From			Name ______	Graduate or
	To			Address ______	Degree? ______

RECORD OF MILITARY AND RESERVE STATUS

Service Dates From ______ To ______ Branch ______ Rate or Rank ______ Serial No. ______

Type of Discharge ______ Present Classification ______ Reserve Unit ______ Meeting Dates ______

Are you receiving military Disability Pay? ______ If Yes, how much and for what? ______

PREVIOUS EMPLOYMENT

(Give a complete record of all employment and reasons for periods unemployed during past ten years. Start with most recent employment.)

EMPLOYER'S NAME AND ADDRESS

Latest Employment First

	Month	Year			
To			1. Employer ______	Reason for leaving ______	
From			Address ______ (Number & Street) (City) (State) (Zip)	Position ______	Salary $______
To			2. Employer ______	Reason for leaving ______	
From			Address ______ (Number & Street) (City) (State) (Zip)	Position ______	Salary $______
To			3. Employer ______	Reason for leaving ______	
From			Address ______ (Number & Street) (City) (State) (Zip)	Position ______	Salary $______
To			4. Employer ______	Reason for leaving ______	
From			Address ______ (Number & Street) (City) (State) (Zip)	Position ______	Salary $______
To			5. Employer ______	Reason for leaving ______	
From			Address ______ (Number & Street) (City) (State) (Zip)	Position ______	Salary $______
To			6. Employer ______	Reason for leaving ______	
From			Address ______ (Number & Street) (City) (State) (Zip)	Position ______	Salary $______

READ THE FOLLOWING CAREFULLY, THEN SIGN AND DATE THE APPLICATION

"I CERTIFY THAT ALL ANSWERS GIVEN BY ME ON THIS APPLICATION ARE TRUE, CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I ACKNOWLEDGE NOTICE THAT THE INFORMATION CONTAINED IN THIS APPLICATION IS SUBJECT TO CHECK. I AGREE THAT, IF HIRED, MY CONTINUED EMPLOYMENT MAY BE CONTINGENT UPON THE ACCURACY OF THAT INFORMATION. IF EMPLOYED, I FURTHER AGREE TO COMPLY WITH COMPANY RULES AND REGULATIONS."

______ Signature of Applicant ______ Date

Interviewer ______ Date ______

"How to Find and Get a Job"

I. What do I have to offer?

1. Previous Work Experience
    - a. know dates, addresses, and names of superiors
    - b. be able to describe job responsibilities and special skills
    - c. account for terminating the job
    - d. be able to list the most and least enjoyable aspects of the job
    - e. describe positive learning experiences in that job

2. Education and Training
    - a. courses completed
        - 1) achievement level
        - 2) course content
    - b. on-the-job training
        - 1) how much and how long
        - 2) under what kind of program

3. Personal Characteristics
    - a. appearance
    - b. attendance and punctuality
    - c. working relations with superiors
    - d. previous examples of responsibility, leadership and cooperation

4. Other Interests
    - a. volunteer work
    - b. school activities
    - c. community clubs or projects
    - d. hobbies and sports

II. Where can I look for work?

1. Human Resources Development
    - a. job search workshop
    - b. work incentive program
    - c. counseling service
    - d. daily listings for summer employment (558 JOBS)
    - e. daily listings for clerical employment (558-4221)
    - f. daily listings for Orange and Los Angeles counties
    - g. daily listing for Civil Service jobs

2. Newspapers and Radio
    - a. classified want ads
        - 1) jobs listed alphabetically by title (be sure to check alternate listings)
        - 2) jobs listed by sex
    - b. newspaper stories
    - c. radio stories
    - d. radio public service programs

3. Employment Agencies
    a. State employment agency (H.R.D.)
    b. private employment agency
        1) check for State license
        2) check contract
        3) only 2% of the agencies in Orange County are employer fee paying

4. Other Sources
    a. word of mouth
    b. Chamber of Commerce directory
        1) available in public schools and libraries
    c. community agencies
        1) YMCA, YWCA
        2) Youth Employment Service
        3) public school job placement offices
        4) Job Corps
    d. craft unions
    e. personnel people

III. What should I take to a job interview?

1. Appearance
    a. women
        1) no tight or short dresses
        2) light on perfume and jewelry
        3) avoid fadss
        4) no smoking
    b. men
        1) short hair
        2) no distracting clothing
        3) no smoking

2. Documents
    a. Social Security card
    b. permit to work
    c. proof of age and citizenship
    d. work records

3. Miscellaneous
    a. do not take a friend
    b. be prepared to discuss weaknesses
    c. be prepared to discuss starting salary
    d. use black or blue ink on applications
    e. print rather than write applications
    f. do not leave blanks, put a slash or write "none"

JOB INTERVIEW PREPARATION

1. Getting Ready for the Interview

    a. Have all factual information about yourself ready: Address, telephone number, social security number.

    b. Have necessary papers ready: Licenses, health certificate, working papers, proof of age, union membership card, other records, such as military records.

    c. Learn as much as you can beforehand about the firm to which you will apply.

    d. Know why you want to work for this company. Learn about the kinds of jobs available and the kind of product or service offered. Find out what you can about the employer's personal preferences.

    e. Avoid too fancy or too casual clothes.

2. Know Your Work Record

    a. Be able to give a continuous record of any jobs you have had, including vacation and part time.

    b. Know the names of previous employers and their kinds of businesses.

    c. Know the exact dates of employment.

    d. Know the exact nature of the work you did.

    e. Know the names of persons able to give information about your work performance.

    f. Know the reasons for giving up or losing your previous jobs. Know how to present a discharge in the best light, without ego involvement.

    g. Know which elements in your past jobs you liked best, and why.

    h. Look for any reasonable relationship between your past training or experience and potential jobs. Do not dismiss similarities just because they are not a perfect fit.

3. Know Your School Record

    a. Know the schools you attended.

    b. Be able to answer questions regarding your favorite subjects and why you liked them best.

    c. Know the subjects and courses in which you got the best grades.

    d. In what school or college extracurricular activities did you participate?

HOW TO HANDLE THE INTERVIEW

1. Approaching the Receptionist or Secretary

    a. If you have no appointment:

        (1) Greet the receptionist with a pleasant good morning or afternoon.

        (2) Introduce yourself by name.

        (3) Tell her why you are there -- and the name of the job for which you are applying. If you wish an appointment with the personnel man to discuss fields of work and opportunities with the firm in general, say so.

        (4) Fill out application form if directed.

        (5) Arrange an interview on the spot with the person you desire to see. If you don't know his name, ask the receptionist. (Ask her to take in a letter of application, letter of introduction or your card, if appropriate.)

        (6) If you are unable to get an immediate appointment, ask the receptionist to make one for you.

        (7) If she cannot or will not do so, get a copy of the company application form, ask her for any descriptive materials or brochures on the company, leave the office and call the personnel man for an appointment later.

    b. If you have an appointment:

        (1) Steps (1) and (2) above. Ask for the personnel man by name and tell the receptionist the time of your appointment.

        (2) If you have been referred by the H.R.D. Office, give her the referral card if you have one. Do NOT indicate that you were sent by H.R.D. unless you have been referred by telephone or a personal interview to the employer for a specific job.

2. That Vital First Impression

    a. Unless the receptionist or secretary takes you to the personnel man's office and introduces you, enter the room with a confident manner, greet the personnel interviewer by name, give your own name, and the specific purpose of your visit.

    b. Give a firm handshake if the interviewer offers his hand, but do not offer to shake hands otherwise.

    c. Remain standing until invited to sit down.

    d. Sit relaxed, yet alert, avoiding nervous mannerisms such as leaning your elbows on his desk, holding your hand to your mouth, jingling coins or smoothing your hair. Do not smoke unless he invites you to do so, even though he is smoking. Never chew gum in the interview.

3. Handling the Interview

    a. Stress your qualifications for the job and your interest in it.

    b. Avoid mention of your personal, domestic, or financial problems. Discuss only matters related to the job.

    c. Be businesslike and brief.

    d. Give the information asked for. Let the employer take the lead in conversation.

    e. Pick up clues given you by the employer's questions or statements and use them to convince him that you fit his requirements.

    f. Have your papers arranged for easy reference: The identification date, summary of work experience, references, etc.

    g. It is usually better to ask for specific types of jobs rather than say, "I'll take anything." Be flexible and willing, but indicate preference.

    h. Have a definite understanding as to what is to be required of you before you are hired. This will avoid disappointment for you and your employer.

    i. Be realistic in discussing wages.

    j. Keep up your courage if the employer doesn't hire you. You may not get the first job you seek, or the second or third. Perseverance is the name of the game in finding a job.

HINTS FOR INTERVIEW

*Remember, the employer can only know you through your ability to communicate your readiness to work by: How you appear, by the way you dress and act, and how you answer questions. You are a capable person, as able as anyone else to fill the job opening. To make a good impression during the interview, follow the guildines listed below:

1. Dress properly and neatly; females wear dresses or dress-up pant suits; males wear clean and pressed slacks and shirts (ties are always appropriate), and shoes.
2. BE ON TIME. (10 minutes ahead of appointment time is better.)
3. Do NOT smoke.
4. Don't chew gum or fiddle with objects in your hands.
5. Don't wear dark glasses. Let the interviewer get a good look at you.
6. Know all the information on your resume so you can answer questions correctly and quickly.
7. Be flexible about the working conditions and hours.
8. Do not make bad comments about previous employers.
9. Talk about the experience which qualifies you for the job.
10. Go to the interview alone.
11. Thank the interviewer.

QUESTIONS MOST ASKED DURING INTERVIEWS

1. What are your future vocational plans?
2. In what type of positions are you most interested?
3. Why do you think you might like to work for our company?
4. What jobs have you held? How were they obtained? Why did you leave?
5. Why did you choose your particular field of work?
6. What percentage of your college expenses did you earn? How?
7. What do you know about our company?
8. What qualifications do you have that make you feel you will be successful in your field?
9. What salary do you expect?
10. What are your avocations?
11. Do you prefer any specific geographic location? Why?
12. How did you rank in your graduation class in high school? Where did you rank in college?
13. What do you think determines an individual's progress in a good company?
14. What personal characteristics are necessary for success in your chosen field?
15. Why do you think you would like this particular job?
16. Are you looking for a permanent or temporary job?
17. Do you prefer working with others or by yourself?
18. What is the most important aspect of the work to you?
19. Can you take instructions without feeling upset?
20. Did you enjoy your last job? Why?
21. What have you learned from some of the jobs you have held?
22. Can you get recommendations from previous employers?
23. What interests you about our product or service?
24. What do you know about opportunities in the field in which you are interested?
25. Do you like routine work?
26. Do you like regular hours?
27. What is your major weakness?
23. Define cooperation?
29. Do you demand attention?
30. Do you have an analytical mind?
31. Are you eager to please?
32. What do you do to keep in good physical condition?
33. Have you any serious illness or injury?
34. Are you willing to go where the company sends you?
35. Is it an effort for you to be tolerant of persons with a background and interests different from your own?
36. What books have you read recently?
37. What type of people seem to rub you the wrong way?
38. Do you enjoy sports as a participant? As an observer?
39. What jobs have you enjoyed the most? The least? Why?
40. What are your own special abilities?
41. What job in our company do you want to work toward?
42. Would you prefer a large or small company? Why?
43. What is your ideal of how industry operates today?
44. Do you like to travel?
45. How about overtime work?
46. What kind of work interests you?
47. What are the disadvantages of your chosen field?
48. Are you interested in research?
49. To what extent do you use liquor?
50. What have you done that shows initiative and willingness to work?

These questions were compiled and distributed by the PERSONNEL AND INDUSTRIAL RELATIONS ASSOCIATION, INC.

"How to Conduct an Interview"

Directions: Answer the following questions and then conduct a mock interview with a fellow classmate.

1. What will you wear to the interview?
2. How will you greet the applicant?
3. How will you make the applicant feel comfortable?
4. What will you tell the applicant about the available job?
5. What questions will you ask the applicant? (Please write down entire list)
6. What criteria will you use to judge whether or not the applicant will be hired?
7. How long will you take to make your decision?
8. How will you inform the applicant of your decision?
9. What will you say if he is hired?
10. What will you say if he is not hired?

NAME ______________________________

CERTIFICATE PROGRAM
PACIFICA HIGH SCHOOL - BUSINESS DEPARTMENT

Certificated Program Worksheet - identify duties and courses required to obtain a Business Certificate in one of the following Business areas:

SECRETARIAL
ACCOUNTING
BOOKKEEPING
CLERK TYPIST
RETAIL CLERK
SALES

A ________________________________ performs the following duties:
(Secretary, Accountant, etc.)

____

____

____

____

Courses to be taken at Pacifica in order to obtain a ________________________

Certificate:

Grade 10 ______________________________________

____

____

Grade 11 ______________________________________

____

____

Grade 12 ______________________________________

____

____

APPENDIX B

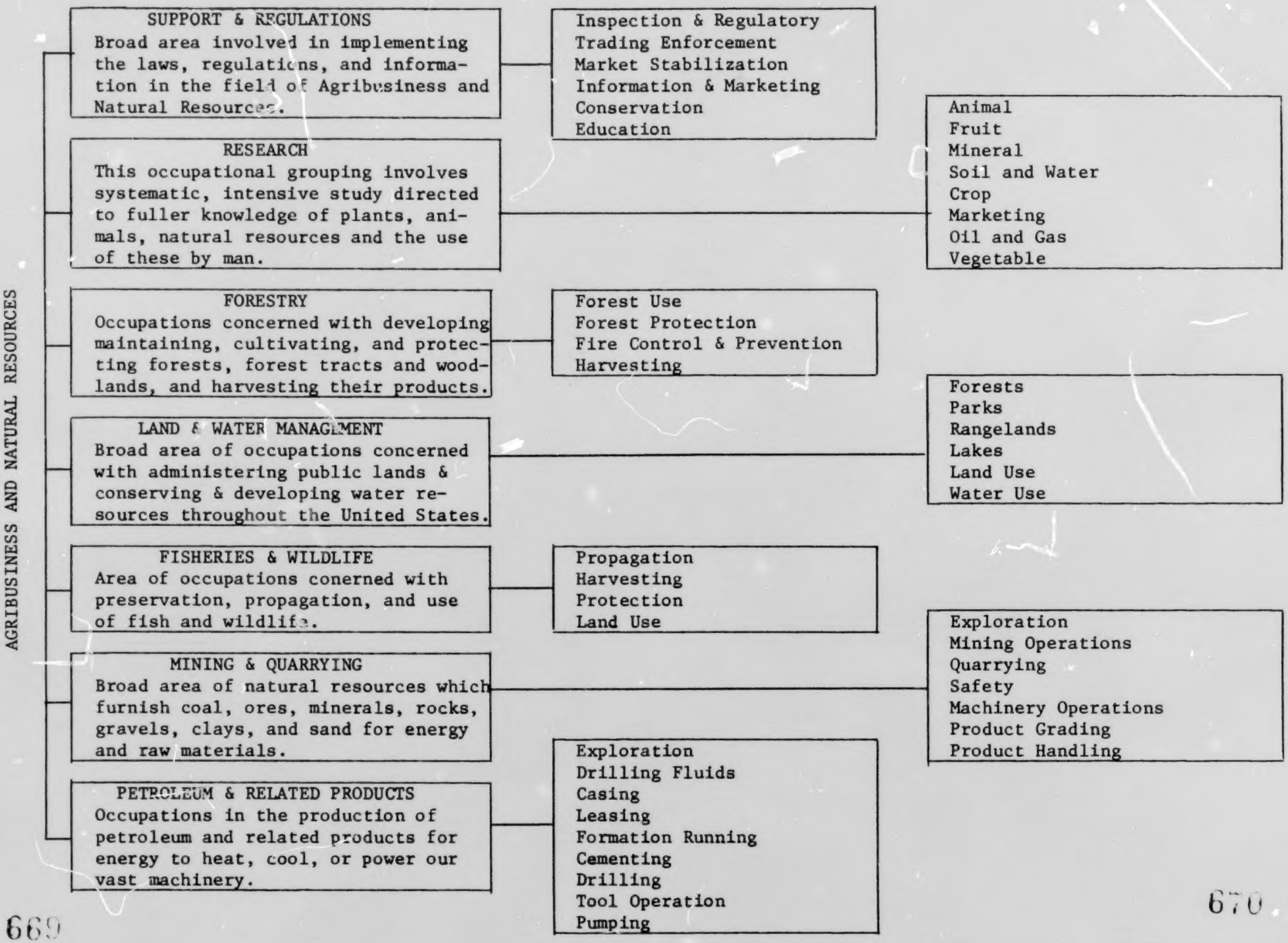
CAREER-CLUSTER

INFORMATION

This appendix contains materials that relate to the classification and relationships of the job clusters. Although the information is incomplete, it is sufficient for introductory purposes in the classroom. Some of the information in the various clusters differs in form, hopefully giving suggestions as to the various ways information can be made available to students.

- Agribusiness and natural resources
- Business and office
- Communications and media
- Construction
- Consumer and homemaking
- Public service
- Fine arts and humanities
- Environment
- Health
- Hospitality and recreation
- Manufacturing
- Marketing and distribution
- Marine science
- Transportation
- Personal services

U.S. Office of Education
Career Family



AGRIBUSINESS AND NATURAL RESOURCES

SUPPORT & REGULATIONS

Broad area involved in implementing the laws, regulations, and information in the field of Agribusiness and Natural Resources.

- Inspection & Regulatory
- Trading Enforcement
- Market Stabilization
- Information & Marketing
- Conservation
- Education

RESEARCH

This occupational grouping involves systematic, intensive study directed to fuller knowledge of plants, animals, natural resources and the use of these by man.

- Animal
- Fruit
- Mineral
- Soil and Water
- Crop
- Marketing
- Oil and Gas
- Vegetable

FORESTRY

Occupations concerned with developing maintaining, cultivating, and protecting forests, forest tracts and woodlands, and harvesting their products.

- Forest Use
- Forest Protection
- Fire Control & Prevention
- Harvesting

LAND & WATER MANAGEMENT

Broad area of occupations concerned with administering public lands & conserving & developing water resources throughout the United States.

- Forests
- Parks
- Rangelands
- Lakes
- Land Use
- Water Use

FISHERIES & WILDLIFE

Area of occupations conerned with preservation, propagation, and use of fish and wildlife.

- Propagation
- Harvesting
- Protection
- Land Use

MINING & QUARRYING

Broad area of natural resources which furnish coal, ores, minerals, rocks, gravels, clays, and sand for energy and raw materials.

- Exploration
- Mining Operations
- Quarrying
- Safety
- Machinery Operations
- Product Grading
- Product Handling

PETROLEUM & RELATED PRODUCTS

Occupations in the production of petroleum and related products for energy to heat, cool, or power our vast machinery.

- Exploration
- Drilling Fluids
- Casing
- Leasing
- Formation Running
- Cementing
- Drilling
- Tool Operation
- Pumping

Agribusiness and Natural Resources continued

PRODUCTIVE AGRICULTURE

Occupations in this area involve producing food and fiber for man's use and the production of trees, shrubs, flowers for his aesthetic value.

- Farmers
- Orchardist
- Foreman
- Ranchers
- Vegetable Producer
- Equipment Operator
- Poultryman
- Managers
- Farm Workers
- Ornamental Horticulture

PROCESSING & MARKETING

Area of occupations in procurement, purchasing, classing or grading and processing before it reaches the manufacturer.

- Brokers
- Ginning
- Dehydrating
- Buyers
- Compress
- Storing
- Graders
- Drying

SERVICE

Occupations in the area involve providing consumable supplies, equipment, services, technical assistance, and other services peculiar to the production phase of agriculture.

- Hatchery Operation
- Field Service
- Salesman
- Seed Service
- Fertilizer Service
- Feed Service
- Veterinarian
- Mechanics
- Feed Store
- Landscaping
- Artifical Breeding
- Farm Equipment
- Pest Control
- Irrigation
- Farm Communications

B-5

BUSINESS - OFFICE

ACCOUNTING
This area is the science, art or system of keeping, analyzing and explaining records.

- Manager
- Cost Accounting
- Certified Public Accountant
- Systems
- Statistician
- Machine Accounting

COMPUTER
This area involves the electronic method of storing, calculating, correlating, and selecting data of a specific nature.

- Programmer
- Key Punch Operator
- Clerk
- Data Typist
- Console Operator

SECTRETARIAL SCIENCE
This area is the specialization of keeping records, taking dictation, composing, editing and creative writing.

- Legal Stenographer
- Court Reporter
- Court Clerk
- Medical Stenographer

MANAGEMENT
This area is the coordination of planning, directing and controlling the activities of personnel.

- Executive
- Supervisor
- Methods Examiner
- Manager (Owner)
- Teacher
- Public Relations

PERSONNEL
This area involves the functions of recruiting, interviewing, hiring and record keeping during the working career of an individual.

- Clerk
- Counselor
- Technician
- Investigator
- Administrator
- Recruiter

FINANCE - INSURANCE - REAL ESTATE
Finance is the science of managing money. Insurance is the function of insuring against loss. Real estate is the land and what is erected, growing or affixed to the land and transactions involved in these functions.

Finance	Insurance	Real Estate
Analyst	Attorney	Broker
Bank Personnel	Examiner	Salesmen
Auditor	Actuary	Clerk
Counselor	Clerk	Escrow Clerk
Teacher	Teacher	Appraiser
		Teacher

OFFICE (CLERICAL)
This area is the office and clerical duties not requiring knowledge of systems or procedures.

- Clerk
- Typist
- Receptionist
- Timekeeper
- Business Machine Operators
- Router

BUSINESS/OFFICE CURRICULUM UNIT
Job Titles

*A. Accounting

1. Accounting Manager (Senior) (Supervisor)
2. Accountant, Cost
3. Accountant, Budget
4. Accountant, Property
5. Accountant, Certified Public
6. Accountant, Junior
7. Accounting Clerk
8. Accountant, Systems
9. Bookkeeper
10. Accountant, Tax
11. Accountant, Machine Processing
12. Statistician
13. Mathematician
14. Clerk, Trust
15. Accounting Representative
16. Accounts Supervisor

B. Computer

1. Data-Methods Analyst (Systems Analyst)
2. Data Typist
3. Key Punch Operator
4. Console Operator
5. High Speed Printer Operator
6. Programmer
7. Data-Reduction Technician
8. Tape Librarian
9. Auxiliary Equipment Operator
10. Card-to-Tape Converter Operator
11. Sorting Machine Operator
12. Tabulating Machine Operator
13. Teacher-Computer

C. Secretarial Science

1. Stenographer (Secretary)
2. Legal Secretary (Stenographer)
3. Medical Secretary (Stenographer)
4. Court Reporter
5. Court Clerk

D. Management

1. Executive
2. Junior Executive
3. Public Relations Worker
4. Supervisor
5. Instructor, Teacher
6. Director, Educational
7. Manager, Owner
8. Assistant Manager
9. Organizational Methods Examiner

E. Personnel

1. Supervisor
2. Interviewer
3. Recruiter
4. Manager (Agent)
5. Investigator (Personnel)
6. Personnel Clerk
7. Personnel-Records Clerk
8. Personnel Relations Administrator
9. Personnel Monitor
10. Personnel Technician (Job Analyst)
11. Position Classifier
12. Personnel Counselor
13. Teacher-Personnel
14. Utilization Technician
15. Administrative Officer

F. Finance-Insurance-Real Estate

1. Finance
    a. Financial Analyst
    b. Financial Economist
    c. Financial Aids Officer
    d. Bank Cashier
    e. Banking Reconciliation Clerk
    f. Bank President
    g. Bank Vice-President
    h. Bank Auditor
    i. Bank Teller
    j. Bank Loan Officer

*From "An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education", Grayson County College, Sherman/Denison, Texas, Neal A. Baker, Jr., Project Director.

Finance (Cont)

- k. Accountant Analyst
- l. Investment Counselor
- m. Credit Manager
- n. Teacher (Instructor)

2. Insurance
   - a. Attorney
   - b. Insurance Clerk
   - c. Insurance Inspector (Credit Reporter)
   - d. Insurance Examiner
   - e. Insurance Safety Man
   - f. Insurance Actuary
   - g. Insurance Adjuster (Claims)
   - h. Insurance Salesman
   - i. Bordereau Clerk
   - j. Insurance Checker
   - k. Teacher, Instructor

3. Real Estate
   - a. Real Estate Broker
   - b. Real Estate Salesman
   - c. Real Estate Appraiser
   - d. Real Estate Escrow Clerk
   - e. Real Estate Counselor
   - f. Real Estate Clerk
   - g. Real Estate Location Writer
   - h. Real Estate Posting Clerk
   - i. Real Estate Expense Posting Clerk
   - j. Teacher, Instructor

G. Office (Clerical)

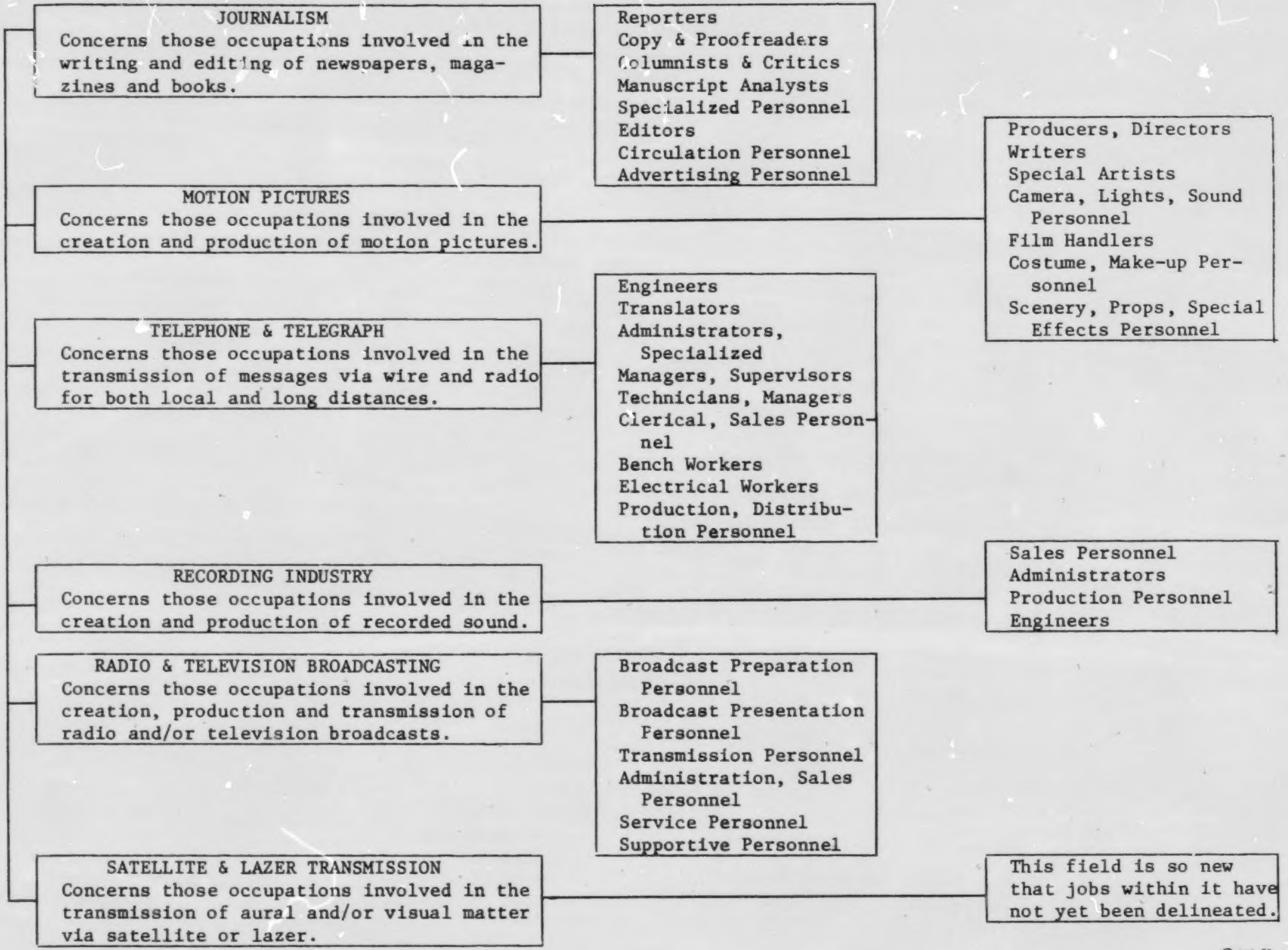
1. Clerk, General Office
2. Clerk, General
3. Clerk, Typist
4. File Clerk
5. Tax Clerk
6. Mail Clerk
7. Router
8. Shipping Clerk
9. Order Clerk
10. Business Machine Operator
11. Transcriber-Machine Operator
12. Receptionist
13. Messenger

G. Office Clerical (Cont)

14. Timekeeper
15. Typist
16. Cashier

B-8

COMMUNICATIONS AND MEDIA



JOURNALISM

Concerns those occupations involved in the writing and editing of newspapers, magazines and books.

- Reporters
- Copy & Proofreaders
- Columnists & Critics
- Manuscript Analysts
- Specialized Personnel
- Editors
- Circulation Personnel
- Advertising Personnel

MOTION PICTURES

Concerns those occupations involved in the creation and production of motion pictures.

- Producers, Directors
- Writers
- Special Artists
- Camera, Lights, Sound Personnel
- Film Handlers
- Costume, Make-up Personnel
- Scenery, Props, Special Effects Personnel

TELEPHONE & TELEGRAPH

Concerns those occupations involved in the transmission of messages via wire and radio for both local and long distances.

- Engineers
- Translators
- Administrators, Specialized
- Managers, Supervisors
- Technicians, Managers
- Clerical, Sales Personnel
- Bench Workers
- Electrical Workers
- Production, Distribution Personnel

RECORDING INDUSTRY

Concerns those occupations involved in the creation and production of recorded sound.

- Sales Personnel
- Administrators
- Production Personnel
- Engineers

RADIO & TELEVISION BROADCASTING

Concerns those occupations involved in the creation, production and transmission of radio and/or television broadcasts.

- Broadcast Preparation Personnel
- Broadcast Presentation Personnel
- Transmission Personnel
- Administration, Sales Personnel
- Service Personnel
- Supportive Personnel

SATELLITE & LAZER TRANSMISSION

Concerns those occupations involved in the transmission of aural and/or visual matter via satellite or lazer.

This field is so new that jobs within it have not yet been delineated.

COMMUNICATIONS AND MEDIA

I. INTRODUCTION

History records that from his most primitive beginnings, man has constantly and resolutely searched for new and better means of communicating with his fellowman. Cave paintings, beating a hollow log with a club, and smoke signals were employed by primitive man for communicative purposes. As man became more sophisticated, so too did his communication devices. This can be witnessed by such inventions as the printing press, the telegraph, and the telephone. The advent of radio and television ushered in a communication explosion which is progressively mushrooming as more advances in technology are made. Experimentation and beginning steps in the field of Satellite and Laser Transmission hold great promise for realizing the ultimate goal of all communication media--giving man the means of achieving a world community.

It is to be expected that many new jobs would be the result of such an explosion, and this is certainly the case. Most of the positions require some form of training or apprenticeship, but by no means is a college degree always the requisite for obtaining a job in any of the fields comprising the area of communications. The individual with ideas to express or who is desirous of expressing others' ideas can find no more challenging or rewarding work than in the area of COMMUNICATIONS AND MEDIA.

II. JOB FAMILIES AND OCCUPATIONAL LISTINGS

The individual Job Families, with a listing and discussion of the function of individual occupations, are listed below:

A. Journalism

B. Motion Pictures

C. Telephone and Telegraph

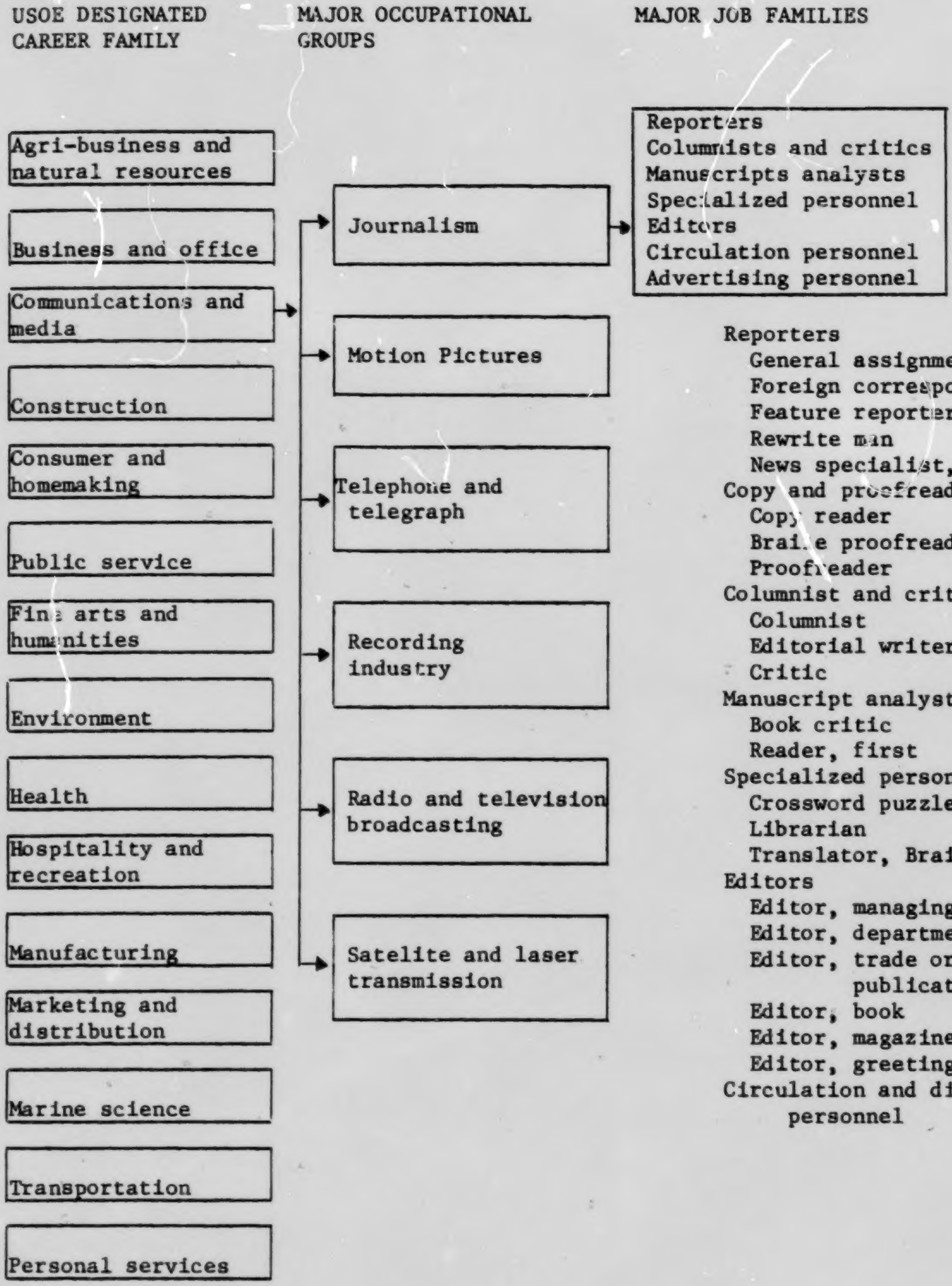
D. Recording Industry

E. Radio and Television Broadcasting

F. Satellite and Laser Transmission

Note-We are familiar with the transmission of television pictures and telephone messages via satellite, but the ultimate potential for satellite and laser transmission is an unknown factor. Experimentation is constantly increasing our knowledge in the field, but this form of transmission is still an infant as far as other means of communication are concerned. "Consequently, outside of basic research, occupations are yet to be established in satellite and laser communications," stated an official with the Bell Telephone System.

The preceding statement is not meant to discourage the interested individual from entering the field, but to acquaint him with present limitations. It is necessary to reiterate the great potential of the field, especially considering the fact that numerous private industries, besides the Bell Telephone System, are conducting experiments and plan to enter the field of satellite and laser transmission. At present, those occupations most utilized are Physicists and Electrical Engineers whose job descriptions may be found in the PUBLIC SERVICE and the CONSTRUCTION pamphlets.


USOE DESIGNATED CAREER FAMILY
MAJOR OCCUPATIONAL GROUPS
MAJOR JOB FAMILIES
Agri-business and natural resources
Business and office
Communications and media
Construction
Consumer and homemaking
Public service
Fine arts and humanities
Environment
Health
Hospitality and recreation
Manufacturing
Marketing and distribution
Marine science
Transportation
Personal services
Journalism
Motion Pictures
Telephone and telegraph
Recording industry
Radio and television broadcasting
Satelite and laser transmission
Reporters
Columnists and critics
Manuscripts analysts
Specialized personnel
Editors
Circulation personnel
Advertising personnel

Reporters
  General assignments
  Foreign correspondent
  Feature reporter
  Rewrite man
  News specialist, syndicate
Copy and proofreaders
  Copy reader
  Braille proofreader
  Proofreader
Columnist and critics
  Columnist
  Editorial writer
  Critic
Manuscript analysts
  Book critic
  Reader, first
Specialized personnel
  Crossword puzzle maker
  Librarian
  Translator, Braille
Editors
  Editor, managing, newspaper
  Editor, department
  Editor, trade or technical publication
  Editor, book
  Editor, magazine
  Editor, greeting card
Circulation and distribution personnel

CONSTRUCTION

- **WOOD** The grouping together of those occupations utilizing wood, wood products, and wood building systems as the primary building, assembling and working materials. Included are occupations which by tradition and practice are normally included as a part of carpentry programs.
  - Framing
  - Flooring
  - Forming
  - Trimming
  - Roofing
  - Material Distributing
- **METAL** The grouping together of those occupations utilizing metal, metal products, and metal building systems as primary building, assembling and working materials.
  - Welding
  - Sheetmetal Working
  - Plumbing
  - Pipefitting
  - Air/Cond. & Heating
  - Millwright
  - Material Distributing
- **MASONRY** The grouping together of those occupations utilizing masonry, clay products, and masonry building systems as primary building, assembling and working materials.
  - Brick & Block Laying
  - Concrete Working
  - Tile & Terrazzo Working
  - Plastering
  - Material Distributing
- **ELECTRICAL** The grouping together of those occupations utilizing electrical materials, related electrical components, and electrical building systems as primary assembling and working materials.
  - Residential Wiring
  - Commercial Wiring
  - Industrial Wiring
  - Material Distributing
- **FINISHING** The grouping together of those occupations utilizing finishing products and finishing building systems as the primary assembling and working materials.
  - Painting & Papering
  - Insulating
  - Glass & Glazing
  - Sheetrocking
  - Floor Covering
  - Landscaping
  - Material Distributing
- **HEAVY EQUIPMENT OPERATIONS** The grouping together of those occupations utilizing the operation and maintenance of heavy equipment.
  - Equipment Operating
  - Equipment Maintenance
  - Material Distributing
- **ENGINEERING & SUPPORT SERVICES** The grouping together of those occupations utilizing engineering and techical supportive training.
  - Construction Drafting & Arch. Drawing
  - Estimating & Expediting
  - Surveying
  - Testing & Inspecting

CONSTRUCTION CLUSTER

Wood

Framing
Flooring
Forming
Trimming
Roofing
Material Distributing

Masonry

Brick & Block Laying
Concrete Working
Tile & Terrazo Working
Plastering
Material Distributing

Finishing

Painting & Papering
Insulating
Glass & Glazing
Sheetrocking
Floor covering
Landscaping
Material Distributing

Engineering & Support Services

Construction Drafting & Architectural Drawing
Estimating
Expediting
Surveying
Testing and Inspecting

Metal

Welding
Sheetmetal Working
Plumbing
Pipefitting
Air/Cond. & Heating
Millwright Material Distributing

Electrical

Residential Wiring
Commercial Wiring
Industrial Wiring
Material Distributing

Heavy Equipment Operations

Equipment Operating
Equipment Maintaining
Material Distributing

Carpenters

Mathematics is involved in every phase of carpentry work including blueprint reading, measurement of materials, and layouts.

A four-year apprenticeship program is generally considered the best way to learn carpentry. The apprentice usually attends 144 hours of related classroom instruction each year and is compensated throughout this time for his work experience.

Career Profile:

1. Estimator - specialist in reading blueprints and interpreting building specifications.
2. Rough Framer - determine methods and sequence of proposed construction of foundation sills, girders, columns, joists, subfloors, and other elements of a building frame.
3. Foundation or Formbuilder - they lay out foundations for new constructions or additions to existing structures.
4. The Trimmer - may specialize in interior or exterior trim; includes the installation of door jambs and trimming, molding and paneling. Exterior trimmers install window frames; exterior trimmers install window frames, exterior door frames and siding.
5. The Stair Builder - a specialized carpenter who constructs a series of uniform steps leading from one level of a structure to another.
6. Cabinetmaker - construct kitchen and bathroom cabinets and closets.
7. Maintenance Carpenter - are involved in every aspect of carpentry work. Since maintenance carpenters construct, install and repair various parts of buildings, they must have a general knowledge of all aspects of carpentry.
8. The Contractor - people who assume the entire responsibility of carrying out the plans of designers and architects.
9. The Supervisor - are hired by contractors to prepare, organize and direct the work effort on a job site.

CONSUMER AND HOMEMAKING EDUCATION

FOOD A food specialist may be engaged in the development and improvement of foods through chemical analysis in research of human nutritional needs, in institutional food service management or in the sales promotion of food products through advertising, public relations or consumer service positions.	Research and Testing Food Service Management Sales Promotion Journalism
HOUSING & HOUSEHOLD EQUIPMENT Specialists in this area are concerned with more beautiful and efficient design and decoration of housing, the development and improvement of household equipment and products through research and testing, or the promotion of household equipment and their related products and utilities through advertising, public relations, or consumer service positions.	Research and Testing Sales Promotion Consulting, Housing Design and Decoration Journalism
TEXTILE & CLOTHING The textile and clothing specialist is involved in the development and testing of textiles through chemical analysis, the buying and selling of textiles and clothing, sales promotion and consumer services in relation to textiles and clothing, and fashion styling and designing.	Research and Testing Merchandising Sales Promotion Fashion Styling & Designing Journalism
FAMILY ECONOMICS & HOME MANAGEMENT This specialist is concerned with how the homemaker manages her work and how the family as a unit expends its time, energy, and money, and often gives advice on home management and family budgeting problems.	Research Consulting Journalism
FAMILY RELATIONS & CHILD DEVELOPMENT Specialists in this area are concerned with all facets of family relationships, particularly the intellectual and emotional development of the child in regard to his home environment.	Research Teaching, Pre-school Journalism
EXTENSION SERVICE The Extension Service Agent is a representative of a state college or university and/or the Dept. of Agriculture who educates groups of homemakers and youth in such subjects as the selection and care of textiles, clothing, household equipment, clothes construction, management of family finances, food preparation, child care, etc.	Specialist in Charge Extension Service Supervisor District Service Supervisor County Home Demonstration Agent Four-H Club Agent

ENVIRONMENT

POLLUTION PREVENTION AND CONTROL

Occupations in this family arise from efforts to control or prevent the input of undesirable materials into our environment.

- Liquid Waste Treatment and Disposal Personnel
- Solid Waste Treatment and Disposal Personnel
- Waste Water Treatment and Disposal Personnel
- Radiation Safety Engineers
- Industrial Sanitation Technicians
- Atmospheric and Noise Pollution Technicians

DISEASE PREVENTION

Occupations in this family attempt to control organisms that cause a nutritional deficiency or disease. Control of additives and other non-patient care measures are components of this family.

- Parasite & Insect Control Technicians
- Milk & Food Sanitation Technicians
- Environmental Health Technicians
- Pest Contol Technicians
- Water Quality Technicians

ENVIRONMENTAL PLANNING

Occupations in this family include planning for future population growth and the most beneficial land use possible.

- Land Design & Use Technicians
- Urban & Rural Planning Consultants
- Park & Recreational Consultants
- Traffic Engineers
- Industrial Environment Technicians

RESOURCE CONTROL

Occupations existing in this family include enforcing laws, maintaining the status quo, and providing more enjoyment of our natural resources.

- Marine Resources Technicians
- Meteorology Technicians
- Fisheries Resources Technicians
- Recreational Resources Technicians
- Water & Soil Conservation Technicians
- Forestry or Timber Conservation Technicians
- Plant Pest & Pesticide Control Technicians
- Wildlife Management Technicians
- Fire Control Technicians

ENVIRONMENT CLUSTER

Pollution Prevention & Control

Air Analyst
Audiologist
Water Purification Chemist
Garbage Collection Foreman
Industrial Waste Inspector
Environmental Laboratory Supervisor
Radiation Monitor
Safety & Sanitary Inspector
Septic Tank Serviceman
Sewage Disposal Worker
Sewage Plant Attendant
Sewage Plant Operator
Superintendent Water & Sewer Systems
Yield-loss Inspector
Yield-loss & Sanitation Engineer
Water Tender

Disease Prevention

Entomologist
Exterminator
Field Health Officer
Food & Drug Inspector
Food Service Supervisor
Fumigator
Orchard Fumigator
Scout
Industrial Health Engineer
Industrial Hygienist
Microbiologist
Milk Sampler
Pest Control Technician
Plant Pathologist
Plant Quarantine Inspector
Public Health Bacteriologist
Sanitarian
Sanitary Inspector

Environmental Planning

Campground Caretaker
Construction Engineer
Geographer
Landscape Architect
Land-use Technician
Sanitary Engineer
Urban Planner
Weed Control Supervisor

Resource Control

Animal Ecologist (Zoologist)
Aquatic Biologist
Commissioner, Conservation of Resources
Ecologist
Engineer, Soils
Federal Aid Coordinator
Fire Look-out
Fire Patrolman
Fire Warden
Forester
High Climber
Forester Aid
Forest Ecologist
Forest Engineer
Forest-fire Fighter
Gamekeeper
Hydraulic Engineer
Surveyor
Mining Engineer
Park Foreman
Park Naturalist
Park Ranger
Park Superintendent
Plant Ecologist (Botanist)
Range Manager
Silviculturist
Soil Conservationist
Soil Scientist
Sprayer (Forestry)
Fishery Biologist
Game Management Agency
Wildlife Biologist
Wildlife Refuge Manager

FINE ARTS AND HUMANITIES

THE VISUAL ARTS
This grouping of those occupations concerned with the design of products and the art images used in advertising and the fine arts.

- Commercial Artist & Designer
- Painter and Sculptor
- Photographer
- Interior Decorator & Designer

THE PERFORMING ARTS
The grouping of those occupations concerned with music, theatre, and the dance.

- Performing Musician
- Composer
- Actor
- Dancer
- Choreographer
- Technical & Stage Production Personnel

OCCUPATIONS IN WRITING
The grouping of those occupations concerned with communication through written forms.

- Literary Writer
- Technical Copy Writer
- Writer for Television, Radio
- Playwright
- Editor
- Journalist

ARCHITECTURE
The grouping of those occupations concerned with the planning and designing of buildings and the supervision for building construction.

- Architect
- Architectural Draftsman
- Architectural Specialities

RELIGION AND THEOLOGY
The grouping of those occupations concerned with the ordained clergy and other relgiously oriented fields.

- The Clergy
- Christian Science Practitioner
- Religious Music, Education, Activities Director
- Support Occupations

LANGUAGES & LINGUISTICS
The grouping of those occupations concerned with the scientific study of language, and with those requiring multi-lingual skills.

- Scientific Linguist
- Interpreter
- Translator

HISTORY AND MUSEUMS
The grouping of those occupations concerned with the study of records of the past, and the use of these materials to describe and analyze past and present events, institutions, ideas and people.

- Historian
- Archivist
- Museum and Historical Sites Occupations

A. *Religion and Theology - The choice of a career in a religiously related field involves some considerations not necessarily present in other occupations. Most clergymen have chosen their careers because of their religious faith and their desire to serve the spiritual needs of others. Most of the clergy are admitted to the ministry through ordinations, and these careers are almost always within an organized religious community. It is concerned with the analysis and interpretation of the traditional doctrines of the various beliefs in religion, and thus theologians are generally college and seminary teachers and writers.

1. Clergyman - (D.O.T. 120.108) - Conducts religious worship and performs other spiritual functions associated with beliefs and practice of religious faith or denomination, and provides spiritual and moral guidance and assistance to members. Leads congregation in worship services. Prepares and delivers sermons and other talks. Interprets doctrine of religion. Instructs people who are to become members of the faith. Conducts weddings and funerals. Administers rites of baptism, confirmation, and other sacraments or ordinances. Visits sick and shut-ins, and helps poor. Counsels those in spiritual need and comforts bereaved. Oversees religious education program. May write articles for publication and engage in inter-faith, community, civic and educational activities sponsored by or related to interest of denomination. May teach in a seminary or universtiy. May serve in armed forces, an institution or in industry as a chaplain. May travel from area to area as an evangelist, to preach at special services to awaken religion interest. May become an administrator, and policy and decision maker in denominational headquarters.

   a. Protestant Clergyman - (D.O.T. 120.108) - In large churches, may have greater administrative or denominational responsibilities, and share responsibilities of the ministry with associates or assistants. May be titled Bishop, Pastor, Reverend, Vicar, Minister.

   b. Roman Catholic Priest - (D.O.T. 120.108) - Hears confessions and administers the sacraments. Usually divided into two main groupings: Diocesan or Secular Priest works in a parish and is concerned with the parish churches and diocesan schools. Religious Priest belongs to a religious order such as Jesuits or Dominicans, and works as a member of a community in a specialized task such as teaching or missionary work.

   c. Rabbi - (D.O.T. 120.108) - May be affiliated with one of three branches of American Judaism: Orthodox, Conservative, or Reform.

---

*From An Analysis of Fifteen Occupational Cluster Identified by the U.S. Office of Education, published by Grayson County College, Sherman/Denison, Texas, Neal A. Baker, Jr., Project Director.

693

    d. Missionary - (D.O.T. 120.108) - Carries religious message to lands and peoples not of own faith to win converts and establish native church, where there is no self-supporting local organization. May also provide educational, medical, nursing, and social service.

2. Director of Religious Activities - (D.O.T. 129-108) - Generally associated with an educational institution. Directs and coordinates activities of various denominational groups to meet religious needs of students. Meets with religious advisors and councils to coordinate overall religious program. Assists and advises groups in promoting inter-faith understanding. Interprets policies of university to community religious workers and confers with administrative officials concerning suggestions and requests for religious activities. Provides counseling and guidance relative to marital, health, financial, and religious problems. Plans and conducts conferences and courses to assist in interpretation of religion to various academic groups and in understanding their own faiths, and convictions of other groups.

3. Director of Religious Education - (D.O.T. 129-108) - Plans, organizes, and directs church or synagogue school. Develops study courses and supervises instructional staff. Counsels students. Promotes student participation in extracurricular church activities. Visits homes of church members and confers with clergymen, denominational officials and organizations to solicit support and participation and to stimulate interest in educational programs. Participates in such denominational activities as giving help to new congregations and small churches, fellowships, and synagogues. Interprets work of school to public through speaking or discussion-leading, and contributes to local and national publications.

4. Minister of Sacred Music - (D.O.T. 152.048) - Selects and arranges program of music to meet time and content requirements of religious services. Consults with clergyman to determine type of music needed, and integrates it within program. In small organization, may serve as Choir Director in recruiting, training, and directing choir or choral singing. Works with organist and instrumentalists, in coordinating and performing musical program. Responsible for ordering musical supplies. Establishes musical groups to represent organization at civic and community events. Also see Choral Director.

5. Christian Science Practitioner - (D.O.T. 129.108) - Promotes healing of sick and reforms religious transgressors, employing prayer in accordance with Christian Science teachings. Encourages patients to apply Christian Science principles of healing.

6. Parish Worker - (D.O.T. 129.208) - Performs lay duties to assist religious leaders: Visits members of congregations, especially sick, and provides welfare services. Preaches at and conducts religious meetings. Prepares candidates for acceptance by religious body. May specialize as Youth Leader or Welfare Worker. May teach religion to children. May assist with clerical work.

*Job Title List-Fine Arts and Humanities

A. THE VISUAL ARTS

1. Advertising Artist
    - a. Art Director
    - b. Lay-out Artist
    - c. Renderer
    - d. Letterer
    - e. Paste-up Artist
    - f. Illustrator
    - g. Other Specialists

2. Advertising Production Manager
    - a. Illustrator
    - b. Medical Illustrator
    - c. Cover Design Artist
    - d. Colorist
    - e. Art Director, Retail Trade

3. Clothes Designer

4. Fur Designer

5. Garment Copyist

6. Fashion Artist

7. Artist in Motion Picture Occupations
    - a. Art Director
    - b. Cartoonist
    - c. Cartoon Background Artist
    - d. Color Advisor
    - e. Background and Title Artist
    - f. Inker and Opaquer

8. Designer
    - a. Manager of Display
    - b. Commercial and Display Designer
    - c. Interior Designer and Decorator

9. Product and Package Designers
    - a. Bank-Note Designer
    - b. Cloth Designer
    - c. Embroidery Designer
    - d. Furniture Designer
    - e. Handbag Designer
    - f. Hat Designer
    - g. Industrial Designer
    - h. Jewelry and Flatware Designer

*From *An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education*, Grayson County College, Sherman/Denison, Texas, 1972, Neal Baker, Jr., Project Director.

- i. Novelites Designer
- j. Ornamental Metalwork Designer
- k. Package Designer
- l. Pottery Decoration Designer
- m. Shoe Designer
- n. Sign Designer
- o. Stained Glass Window Designer
- p. Tile Designer
- q. Toy Designer
- r. Wallpaper Artist

10. Painting and Sculpturing
    - a. Painter
    - b. Graphic Artist
    - c. Cartoonist
    - d. Paintings Restorer
    - e. Sculptor
    - f. Potter

11. Photographer
    - a. Commercial Photographer
    - b. Portrait Photographer
    - c. Photograph Gallery or Studio Manager
    - d. Motion Picture Photographer
    - e. News Photographer
    - f. Television Cameraman
    - g. Scientific Photographer
    - h. Aerial Photographer and Interpreter
    - i. Finish Photographer
    - j. Identification Bureau Photographer
    - k. Camera Girl
    - l. Photomachine Operator
    - m. Street Photographer

12. Draftsman

B. THE PERFORMING ARTS

1. The Dance
    - a. Choreogrpher
    - b. Dancer

2. The Theater
    - a. Stage Director
    - b. Stage Manager
    - c. Theater Manager
    - d. Public Relations Director
    - e. Dramatic Arts Historian
    - f. Playwright
    - g. Stage Scenery Designer
    - h. Lighting Director
    - i. Costume Designer
    - j. Stage Electrician
    - k. Costume Mistress

        l. Drama Critic
        m. Dramatic Coach
        n. Actor
        o. Dramatic Reader
        p. Story Teller
        q. Property Foreman
        r. Flyman

    3. Music
        a. Vocalist
        b. Musician
        c. Music Therapist
        d. Music Copyist
        e. Prompter

    4. Music-Related Occupations
        a. Music Librarian
        b. Piano Technician
        c. Piano Tuner
        d. Piano-Action Regulator
        e. Piano Stringer

C. OCCUPATIONS IN WRITING

    1. Author
    2. Editor
    3. Journalist
    4. Lyricist
    5. Technical Writer
    6. Copy Writer
    7. Collaborator
    8. Cross-Word Puzzle Writer
    9. Greeting Card Editor
    10. Humorist
    11. Lexicographer
    12. Critic
    13. Techical and Scientific Publications Manager

D. ARCHITECTURE

    1. Architect
    2. Architectural Draftsman
    3. Marine Architect
    4. Landscape Architect
    5. Urban Planner
    6. School Plant Consultant

E. LANGUAGE AND LINGUISTICS

    1. Linguist
        a. Interpreter
        b. Translator

    2. Scientific Linguist
        a. Etymologist
        b. Philologist
        c. Phonologist

F. HISTORY AND MUSEUMS

1. Historian
    - a. Biographer
    - b. Genealogist
    - c. Dramatic Arts Historian
    - d. Research Director
    - e. Consultant
    - f. State Historical Society Director

2. Archivist

3. Anthropologist

4. Museum Related Occupations
    - a. Curator
    - b. Museum Technician
    - c. Historic Sites Supervisor
    - d. Armorer Technician
    - e. Research Assistant and Encyclopedia Research Worker
    - f. Art Appraiser

HEALTH OCCUPATIONS

MENTAL HEALTH AND MENTAL HEALTH SERVICES

These careers or occupations cooperate to solve problems that exert such a powerful disruptive influence on some people's lives that they may bring on physical or mental illness.

- Psychiatrists
- Psychiatric Aids
- Psychiatric Social Worker
- Psychiatric Nurse
- Psychologists
- Psychometrists

MEDICAL AND BIOLOGICAL SCIENCE SERVICES

These occupations support and amplify the whole medical profession. These are medical fact finding jobs the facts themselves being interpreted by the pathologists.

- Cytotechnologists
- Histologic Technicians
- Blood Bank Technologists
- Medical Technologists
- Biochemisty Technologists
- Microbiology Technologists
- EKG Technicians
- EEG Technicians
- Radiologic Technologists
- Medical Lab Assistant
- Physician's Assistant
- Medical Assistant
- Surgical Technician
- Nuclear Medical Technologist
- Veterinary Lab Technician

DENTISTRY AND DENTAL SCIENCE SERVICES

These professions and occupations treat ailments of abnormalities of the gums and teeth and try to prevent their occurence or recurrence.

- Dentists
- Dental Assistants
- Dental Lab Technicians
- Dental Hygientists
- Dental Ceramists

GENERAL HOSPITAL & MEDICAL OFFICE RELATED OCCUPATIONS

These occupations aid the health services in very general ways such as record keeping and supplies, etc. The personnel may or may not be certified or licensed.

- Supervisor, Central Supply
- X-Ray Clerk
- Diet Clerk
- Nursing Aid
- Central Supply Technician
- Receptionists

MEDICAL EMERGENCY SERVICES

These occupations deal with responsibilities for responding to medical emergency calls, evaluating the nature of the emergency, taking appropriate prompt action to reduce the medical hazards to the receiving station and serving as technical assistance to the emergency room staff of general hospitals.

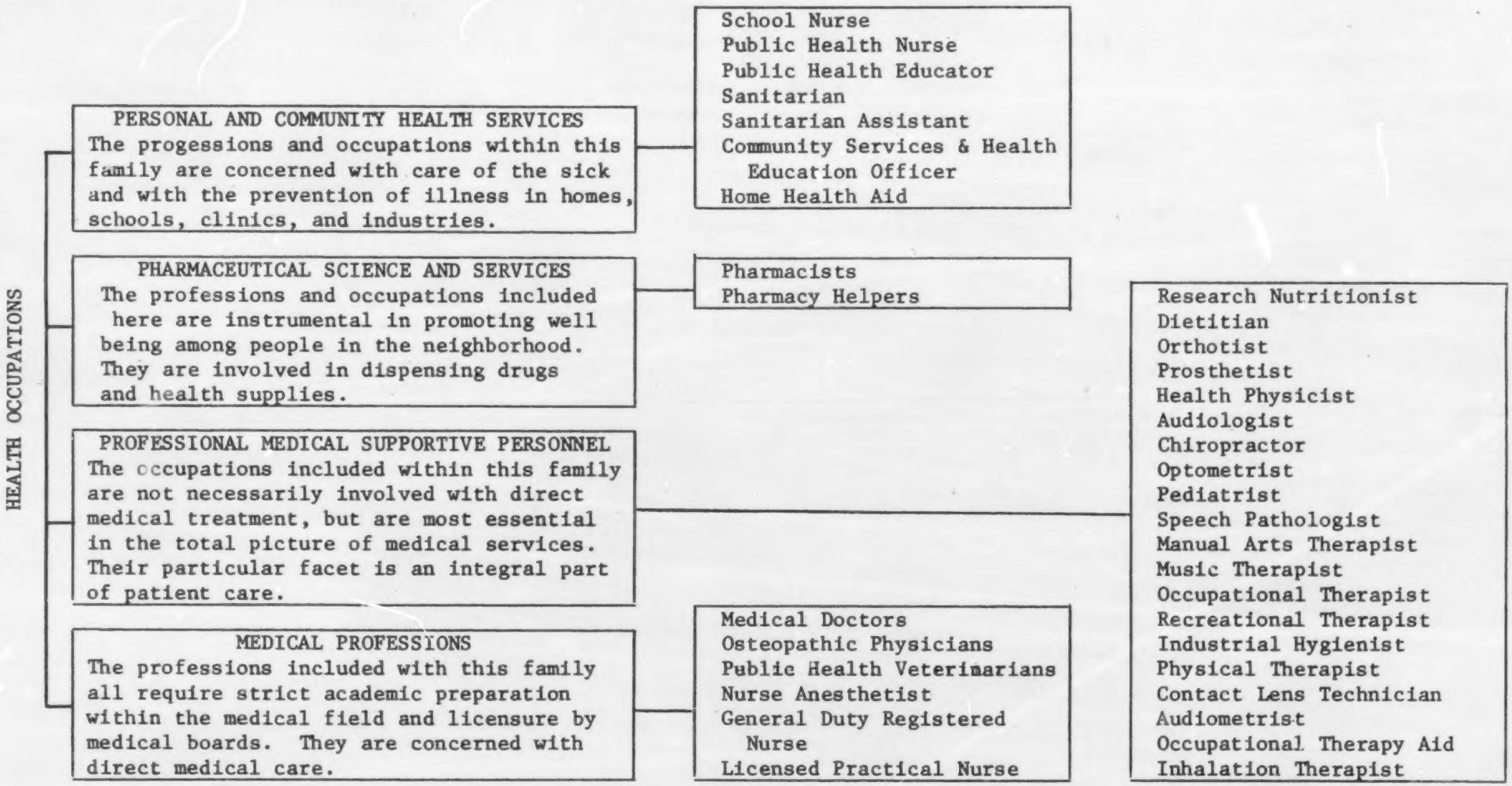
- First Aid Attendant
- Ambulance Attendant

ADMINISTRATION OF HEALTH SERVICES

The occupations included within this family are concerned with managing and directing all aspects of health services in hospitals, health departments, and voluntary agencies.

- Hospital Administrator
- Medical Officer
- Administrative Assistant
- Accountant
- Admitting Officer
- Controller
- Credit Manager
- Director of Volunteers
- Executive Housekeeper
- Personnel Director
- Public Relations Director
- Purchasing Agent

B-25



HEALTH OCCUPATIONS

PERSONAL AND COMMUNITY HEALTH SERVICES
The progessions and occupations within this family are concerned with care of the sick and with the prevention of illness in homes, schools, clinics, and industries.

- School Nurse
- Public Health Nurse
- Public Health Educator
- Sanitarian
- Sanitarian Assistant
- Community Services & Health Education Officer
- Home Health Aid

PHARMACEUTICAL SCIENCE AND SERVICES
The professions and occupations included here are instrumental in promoting well being among people in the neighborhood. They are involved in dispensing drugs and health supplies.

- Pharmacists
- Pharmacy Helpers

PROFESSIONAL MEDICAL SUPPORTIVE PERSONNEL
The occupations included within this family are not necessarily involved with direct medical treatment, but are most essential in the total picture of medical services. Their particular facet is an integral part of patient care.

- Research Nutritionist
- Dietitian
- Orthotist
- Prosthetist
- Health Physicist
- Audiologist
- Chiropractor
- Optometrist
- Pediatrist
- Speech Pathologist
- Manual Arts Therapist
- Music Therapist
- Occupational Therapist
- Recreational Therapist
- Industrial Hygienist
- Physical Therapist
- Contact Lens Technician
- Audiometrist
- Occupational Therapy Aid
- Inhalation Therapist

MEDICAL PROFESSIONS
The professions included with this family all require strict academic preparation within the medical field and licensure by medical boards. They are concerned with direct medical care.

- Medical Doctors
- Osteopathic Physicians
- Public Health Veterinarians
- Nurse Anesthetist
- General Duty Registered Nurse
- Licensed Practical Nurse

HEALTH OCCUPATIONS CURRICULUM UNIT
Job Titles

I. Job Families and Occupational Listing*

A. Mental health and Mental Health Services

1. Psychiatrist
2. Psychiatric Aid
3. Psychiatric Nurse
4. Psychiatric Social Worker
5. Psychometrist
6. Psychologist
7. Social Psychologist

B. Medical and Biological Science Services

1. Cytotechnologist
2. Histologic Technician
3. Blood Bank Technologist
4. Medical Technologist
5. Biochemistry Technologist
6. Microbiology Technologist
7. Electrocardiograph Technician
8. Electroencephalograph Technician
9. Radiologic Technologist
10. X-Ray Technologist
11. Medical Laboratory Assistant
12. Laboratory Assistant, Plasma Drawing-Off
13. Physician's Assistant
14. Medical Assistant
15. Surgical Technician
16. Obstetrical Technician
17. Nuclear Medical Technologist
18. Radiological Health Specialist and Technicians
19. Veterinary Laboratory Technician

C. Dentistry and Dental Science Services

1. Dentists
2. Dental Hygienist
3. Dental Assistant
4. Dental Laboratory Technician
5. Dental Ceramist
6. Dental Ceramist Assistant

D. General Hospital and Medical Office Related Occupations

1. Central Supply Supervisor
2. X-Ray Clerk
3. Diet Clerk
4. Nursing Aid
5. Central Supply Aid
6. Receptionist

*From An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education, Grayson County College, Sherman/Denison, Texas, Neal A. Baker, Jr., Project Director.

E. Medical Emergency Services

1. Ambulance Driver
2. Ambulance Attendant
3. First-Aid Attendant

F. Administration of Health Services

1. Hospital Administrator
2. Administrative Assistant
3. Medical Officer
4. Accountant
5. Controller
6. Credit Manager
7. Personnel Director
8. Public Relations Director
9. Purchasing Agent
10. Admitting Officer
11. Director of Volunteer Services
12. Executive Housekeeper

G. Personal and Community Health Services

1. Community Services and Health Education Officer
2. Public Health Educator
3. Public Health Nurse
4. School Nurse
5. Sanitarian
6. Sanitarian's Aid
7. Home Health Aid

H. Pharmaceutical Science and Services

1. Pharmacist
2. Pharmacy Helper

I. Professional Medical Supportive Personnel

1. Research Nutritionist
2. Dietitian
3. Prosthetist-Orthotist
4. Health Physicist
5. Audiologist
6. Audiometrist
7. Chiropractor
8. Chiropractor's Assistant
9. Naturopathic Doctor
10. Hearing Clinician
11. Optometrist
12. Podiatrist
13. Speech and Hearing Clinician
14. Speech Clinician
15. Speech Pathologist

16. Manual-Arts Therapist
17. Music Therapist
18. Occupational Therapist
19. Occupational Therapy Aid
20. Recreational Therapist
21. Industrial Hygienist
22. Orientation Therapist for the Blind
23. Podiatrist's Assistant
24. Corrective Therapist
25. Orthoptist
26. Inhalation Therapist
27. Physical Therapist
28. Contact Lens Technician
29. Artificial Plastic-Eye Maker
30. Mounter and Repairman (Optical Goods)

J. Medical Professions

1. Medical Doctor
2. Public Health Veterinarian
3. General Duty Nurse
4. Nurse Anesthetist
5. Office Nurse
6. Industrial Nurse
7. Licensed Practical Nurse

Psychiatric Technician

You must have a 12th grade education.

Must have completed training as a Psychiatric Technician that includes the minimum of 48 weeks of formal training, 504 hours of classroom work and a clinical laboratory work of 1,026 hours as required by law in a college program.

COURSES -- (Information from Cypress College)

COURSE NUMBER	COURSE TITLE	UNITS
Semester 1		
1A	General Psychology	3
50A	Nursing Science	2
51A	Growth and Development	2
53A	Psychiatric Technician Training Laboratory	7
54A	Pharmacology	2
60	Integrated Medical Science	3
Semester 2		
51B	Introduction to Mental Retardation	2
52A	Behavioral Science	6
53B	Psychiatric Technician Laboratory	7
55	Behavioral Science Survey For Psychiatric Technicians	3
Semester 3		
51C	Mental Health Nursing	8
52B	Trends in Community Mental Health	3
53C	Psychiatric Technician Training Laboratory	7
		55

HEALTH OCCUPATIONS

Physical Therapists

REQUIREMENTS: Must have at least a bachelor's degree to meet minimum qualifications for entry in the field of physical therapy.

Must pass a licensing examination given by the state following completion of college training.

HIGH SCHOOL: A college preparatory major is recommended: Math, foreign language, and science, including a laboratory class.

COLLEGE OR UNIV.: Students who intend to apply for admission to a physical therapy school should select a major (Kinesiology and Psychology are usually selected) and complete the following prerequisite courses; 1 course in Human Anatomy and Physiology - (Kinesiology 14, 12), 2 courses in Biology (Biology 1A and 1B), 2 courses in Chemistry (1A and 1N), Physics 10 or 3A, 3B, Psychology 10, 127, 15 recommended, Public Health 44 or 100 and one course in Statistics.

SCHOOLS: Cypress - To become a Physical Therapist requires 4 years of college. Orange County community colleges offer a program which will allow you to transfer with junior standings. California State College at Long Beach offers an approved degree program in Physical Therapy.

Certificate programs in Physical Therapy are available for the Baccalaureate Degree at the following California schools:

University of California

The Medical Center, San Francisco

University of Southern California

Children's Hospital, Los Angeles

HEALTH OCCUPATIONS

Health Career Information

General Federal Support

a. 150 programs that support health manpower training.

b. Grants are made to states, to communities, to schools, to public or private nonprofit agencies or directly to individuals.

c. Loral Health Careers Programs

Additional information on financing may be obtained from the following:

Mrs. Barbara de Cordova
Project Director, Health Careers Program
National Medical Association Foundation
1635 E. 103 Street
Los Angeles, CA 90002

Frank St. Denis
Assistant Executive Director
Hospital Council of Southern California
4777 Sunset Blvd.
Los Angeles, CA 90027

HEALTH OCCUPATIONS

Nursing

REQUIREMENTS:

A college preparatory course in high school is recommended. Also, chemistry, biology, English, general science, speech, algebra, social science studies. For a State College, microbiology, physics, and psychology is required, along with the others. A degree from an accredited school of nursing is also required.

REQUIREMENTS FOR THE DEGREE OF MASTER OF NURSING:

1. Meet the general requirement of the graduate division.

2. Completed in graduate status at least ten courses in upper division and graduate level courses; eight courses must be in nursing with five courses in the 200-400 series. Courses 205A- International Business Economics, 410- Fundamentalas, 420- Basic Sources of Information, are required for all students. The additional courses may be distributed among courses in the 100, 200, or 400 series subject to approval of the student's faculty advisor.

3. A comprehensive examination or a thesis is required.

All the information above is from UCLA College.

OTHER SCHOOLS:

Fullerton -	Registered Nurse	2 years	AA Degree
Golden West -	Nursing	2 years	AA Degree
Santa Ana -	Nursing	2 years	AA Degree

HOSPITALITY AND RECREATION

- **Commercial and non-commercial travel bureaus**
  Travel bureaus, both commercial and non-commercial are generally limited to providing the public with travel information and attempting to promote goodwill.
  - Public relations and/or advertising and publicity coordinators
  - Information Personnel
  - Librarians
- **Travel Agencies**
  The travel agency not only provides the traveler with information about vacation areas but informs him of tours and accommodations that the agency can arrange for him.
  - Public Relations Personnel
  - Sales Agents and Agency Representatives
  - Clerks and Advisors
- **Transportation**
  Transportation, in this instance, refers only to those individuals who are concerned with passenger and/or tourist comfort.
  - Passenger Agents and clerks
  - Tour Director
  - Tour Conductor
  - Sight-seeing Company Personnel
  - Public Relations Personnel
- **Public, Industrial, and Private Recreation**
  (Commercial and Non-commercial)
  Any occupation concerned with athletics or sports, entertainment, amusement, or recreation services is included in this category.
  - Superintendent
  - General Supervisors
  - Supervisors of Special Activities
  - Director of Centers
  - Play Leaders
  - Specialists
- **Recreation Concerned With Natural Resources**
  This category includes those occupations concerned with recreational facilities provided by nature, i.e. ocean and lake beaches, forests, wild life areas, etc.
  - Information Center Personnel
  - Guides
  - Lifeguards
  - Concession Attendants
  - Zoo Keepers and Attendants

HOSPITALITY/RECREATION CURRICULUM UNIT
Job Titles

Job Families and Occupational Listings*

A. Commercial and Non-Commercial Travel Bureaus
   1. Artist
   2. Information Clerk (Travel Bureau)
   3. Librarian (Travel Bureau or Agency)
   4. Lodging Facilities Attendant
   5. Photographer
   6. Public Relations Man
   7. Transportation Clerk
   8. Travel-Accommodation Appraiser
   9. Travel Counselor
   10. Writer

B. Travel Agencies
   1. Advertising and Publicity Personnel
   2. Hotel Representative
   3. Information Clerk
   4. Librarian
   5. Publicity, Advertising, and Clerical Staff
   6. Sales Agent or Agency Representative
   7. Ticket Clerk
   8. Travel Advisor
   9. Travel Agency Clerk
   10. Travel Agency Supervisor and Executive
   11. Travel Agent

C. Transportation
   1. Passenger Agents and Clerks
   2. Purser
   3. Stewardess (Airline)
   4. Steward (Deck)
   5. Tour Conductor
   6. Tour Director
   7. Tourist Recreation Director or Supervisor

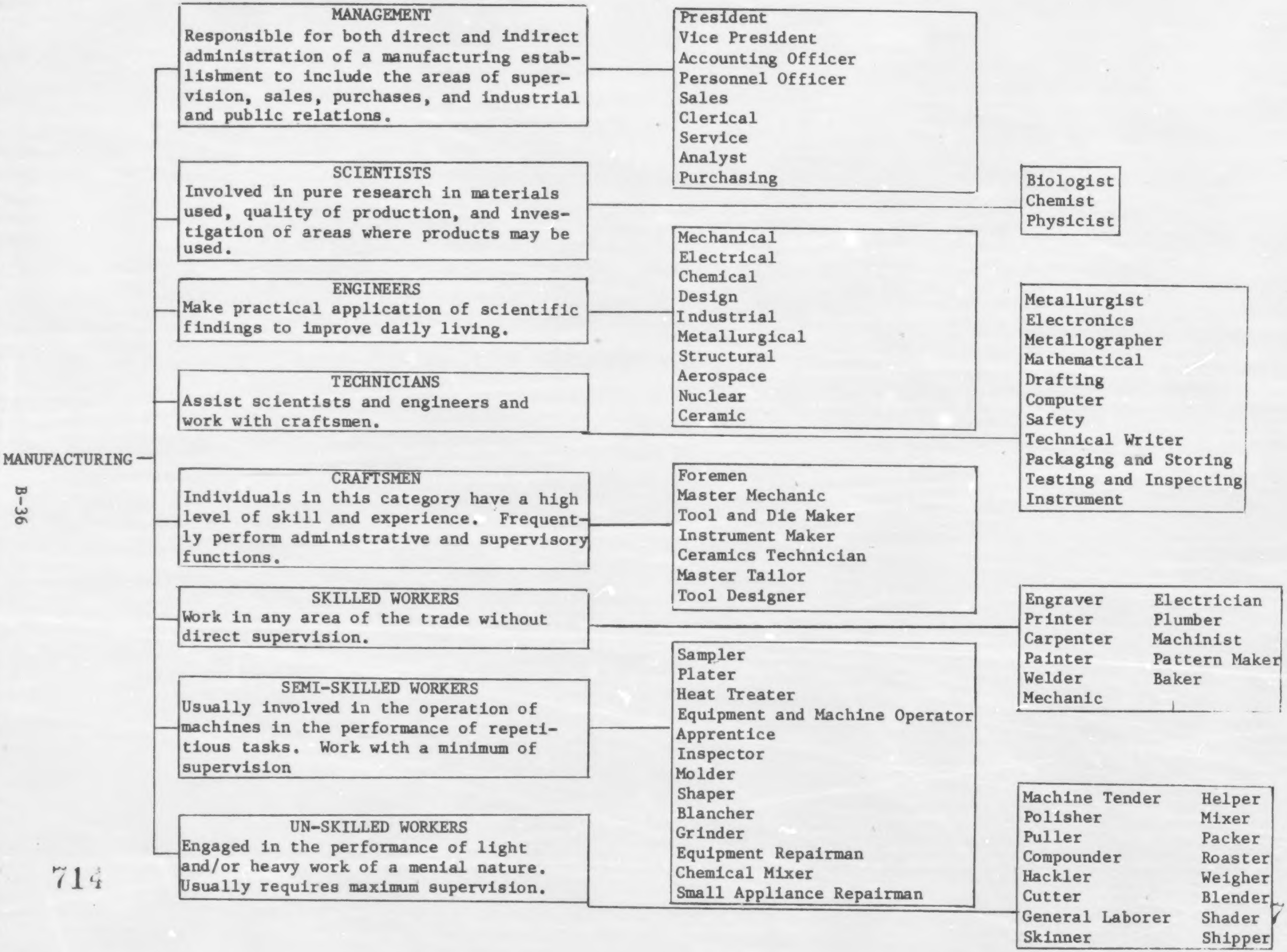
D. Public, Industrial, and Private Recreation (Commercial and Non-Commercial)
   1. Athlete Manager
   2. Athletic Director
   3. Athletic Equipment Custodian
   4. Athletic Team Manager
   5. Athletic Trainer
   6. Professional Athlete
   7. Umpire
   8. Automobile Racer
   9. Acrobat
   10. Acrobatic Rigger
   11. Aerialist
   12. Artist and Repertoire Man
   13. Circus Agent (Business Agent)
   14. Circus Foreman

---

*From An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education, Grayson County College, Sherman/Denison, Texas, Neal A. Baker, Jr., Project Director.

15. Circus Laborer
16. Circus Trainmaster
17. Clown
18. Comedian
19. Mermaid
20. Mime
21. Ring Master
22. Showman
23. Stunt Man
24. Astologer
25. Fortune Teller
26. Graphologist
27. Hypnotist
28. Magician
29. Mind Reader
30. Physiognomist
31. Ventriloquist
32. Puppeteer
33. Show Girl
34. Song and Dance Man
35. Strip-Tease Artist
36. Waiter-Entertainer
37. Usher
38. Snake Charmer
39. Baton Twirling Instructor
40. Bowling Instructor
41. Ice Skating Instructor
42. Judo Instructor
43. Physical Education Instructor
44. Riding Instructor
45. Swimming Instructor
46. Ski Instructor
47. Ski Patrolman
48. Ski-Tow Operator
49. Animal Keeper
50. Marine-Mammal Trainer
51. Marine-Mammal Handler
52. Wild Animal Trainer
53. Dog Trainer
54. Horse Trainer
55. Equestrian
56. Horseman
57. Horse Race Starter
58. Horse Race Timer
59. Patrol Judge
60. Racetrack Steward
61. Jockey
62. Jockey Room Custodian
63. Jockey Valet
64. Sulkey Driver
65. Clocker
66. Horse Exerciser
67. Skating Rink Iceman
68. Play Leader
69. Specialists and Assistant
70. Supervisor of Special Activities
71. Recreation Superintendent
72. General Recreational Supervisor
73. Director of Recreation Centers
74. Camp Counselor
75. Attendant at Golf Course, Tennis Court, Skating Rink, and Related Facilities
76. Amusement Device and Concession Attendant
77. Amusement and Recreation Service Occupations
78. Bowling Floor Deskman
79. Racker
80. Kennel Master
81. Public Address Announcer
82. Public Relations Man (Advance Man)
83. Booking Agent
84. Master of Ceremonies
85. Gambling Hall Attendant
86. Guide
87. Hunting and Fishing Guide
88. Huntsman
89. Boat Dock Operator
90. Diver
91. Wharf Attendant

E. Recreation Concerned with Natural Resources
    1. Information Center Personnel
    2. Concession Attendant
    3. Lifeguard
    4. Visitor or Tourist Guide
    5. Zoo Keeper and Attendant



MANUFACTURING

- **MANAGEMENT**
  Responsible for both direct and indirect administration of a manufacturing establishment to include the areas of supervision, sales, purchases, and industrial and public relations.
  - President
  - Vice President
  - Accounting Officer
  - Personnel Officer
  - Sales
  - Clerical
  - Service
  - Analyst
  - Purchasing
- **SCIENTISTS**
  Involved in pure research in materials used, quality of production, and investigation of areas where products may be used.
  - Biologist
  - Chemist
  - Physicist
- **ENGINEERS**
  Make practical application of scientific findings to improve daily living.
  - Mechanical
  - Electrical
  - Chemical
  - Design
  - Industrial
  - Metallurgical
  - Structural
  - Aerospace
  - Nuclear
  - Ceramic
- **TECHNICIANS**
  Assist scientists and engineers and work with craftsmen.
  - Metallurgist
  - Electronics
  - Metallographer
  - Mathematical
  - Drafting
  - Computer
  - Safety
  - Technical Writer
  - Packaging and Storing
  - Testing and Inspecting
  - Instrument
- **CRAFTSMEN**
  Individuals in this category have a high level of skill and experience. Frequently perform administrative and supervisory functions.
  - Foremen
  - Master Mechanic
  - Tool and Die Maker
  - Instrument Maker
  - Ceramics Technician
  - Master Tailor
  - Tool Designer
- **SKILLED WORKERS**
  Work in any area of the trade without direct supervision.
  - Engraver
  - Printer
  - Carpenter
  - Painter
  - Welder
  - Mechanic
  - Electrician
  - Plumber
  - Machinist
  - Pattern Maker
  - Baker
- **SEMI-SKILLED WORKERS**
  Usually involved in the operation of machines in the performance of repetitious tasks. Work with a minimum of supervision
  - Sampler
  - Plater
  - Heat Treater
  - Equipment and Machine Operator
  - Apprentice
  - Inspector
  - Molder
  - Shaper
  - Blancher
  - Grinder
  - Equipment Repairman
  - Chemical Mixer
  - Small Appliance Repairman
- **UN-SKILLED WORKERS**
  Engaged in the performance of light and/or heavy work of a menial nature. Usually requires maximum supervision.
  - Machine Tender
  - Polisher
  - Puller
  - Compounder
  - Hackler
  - Cutter
  - General Laborer
  - Skinner
  - Helper
  - Mixer
  - Packer
  - Roaster
  - Weigher
  - Blender
  - Shader
  - Shipper

MANUFACTURING CURRICULUM UNIT

A. Craftsmen

1. Electrician Foreman
2. Master Mechanic, Maintenance
3. Master Tailor
4. Tool Designer
5. Die Maker
6. Tool Maker
7. Tool and Die Foreman
8. Foreman, Artificial Limb Fabrication
9. Master Mechanic
10. Carpenter Foreman
11. Plumber Foreman
12. Masonry Foreman
13. Sheet Metal Foreman
14. Electrical Foreman

B. Skilled Workers

1. Lithographer
2. Machinist
3. Pattern Maker, Plastics
4. Milling Machine Set-Up Man
5. General Assembler
6. Layout Man
7. Gear-Cutting Machine Setup Operator, Tool
8. Buffing Line Setup Man
9. Shear Setup Man
10. Press Operator, Heavy Duty
11. Calibrator, Resistor
12. Calibration Checker I
13. Calibration Checker II
14. Electric Motor Analyst
15. Camera Repairman
16. Instrument Maker
17. Radio Repairman
18. Hearing-Aid Repairman
19. Fruit Coordinator
20. Pulp & Paper Tester
21. Tinter
22. Quality Control Tester
23. Carpenter
24. Painter
25. Welder
26. Mechanic
27. Electrician
28. Plumber
29. Butcher

30 Sheet Metal Worker

C. Semi-Skilled Workers

1. Mineral

a. Hammer Mill Operator
b. Alodize Machine Operator
c. Electrostatic Separator Operator
d. Kiln Operator
e. Mixer, Iron and Steel
f. Clarifier Operator
g. Pyrometer Man
h. Bessemer Converter Blower
i. Oxygen Furnace Operator
j. Charging Machine Operator
k. Cupola Charger
l. Die Casting Machine Set-Up Man
m. Casting Operator
n. Grinding Mill Operator
o. Batch Maker
p. Briquetting Machine Operator
q. Arbor Press Operator
r. Mirror-Finishing Machine Operator
s. Screw Machine Operator
t. Fox-Lathe Operator
u. Boring Machine Operator
v. Cut-Off Saw Operator, Metal
w. Drop-Hammer Operator
x. Die-Setter
y. Coiler Operator
z. Table Operator
aa. Draw-Bench Operator
bb. Hoop-Flaring and Coiling Machine Operator
cc. Rifter
dd. Set-Up Man, Molding and Core-Making
ee. Core-Maker, Pipe
ff. Stone Grader
gg. Plater, Electroplater
hh. Cylinder Grinder
ii. Etcher, Electrolytic
jj. Anodizer
kk. Plater, Hot Dip
ll. Fluoroscope Operator
mm. Flame Hardening Machine Set-Up Man
nn. Armature Bander
oo. Antenna Assembler
pp. Electronic-Sensing Equipment Assembler
qq. Assembler, Clip-On Sunglasses
rr. Mill Hand, Plate Mill
ss. Die Barber
tt. Cathode Maker
uu. Crystal Cutter
vv. Carbon Setter
ww. Blender

2. Animal-Vegetable

   a. Cheese Blender
   b. Blending Plant Operator
   c. Dividing Machine Operator
   d. Ball Machine Operator
   e. Rice Miller
   f. Scrapman
   g. Potato Chip Sorter
   h. Cocoa Press Operator
   i. Battery Operator
   j. Candy Maker
   k. Butter Maker
   l. Dairy Processing Equipment Operator
   m. Cigarette Filter Making Machine Operator
   n. Sucker Machine Operator
   o. Blender
   p. Binder Selector (Tobacco)
   q. Digester Operator
   r. Carbon Paper Coating Machine Set-UP Man
   s. Extruder Operator
   t. Chip Mixing Machine Operator
   u. Compounder, Cork
   v. Cork Grinder
   w. Pole-Peeling Machine Operator
   x. Banbury-Mix Operator
   y. Beater Engineer
   z. Bleacher Man, Pulp
   aa. Corrugator Operator
   bb. Molding Sander
   cc. Sectional Belt Mold Assembler
   dd. Cotton Dispatcher
   ee. Foundation Girl
   ff. Sewing Machine Operator
   gg. Sewing Machine Operator
   hh. Appliance Repairman

3. Chemical and Synthetic

   a. Bath-Still Operator
   b. Heat Welder, Plastic
   c. Nitro-Cotton Operator
   d. Caustic Operator
   e. Acid Extractor
   f. Catalyst Operator
   g. Absorption Operator
   h. Gager

D. Unskilled Laborers

JOB TITLE LIST - MANUFACTURING

A. Management
   1. President
   2. Vice President
   3. Manager, Industrial Organization
   4. Manager, Sales
   5. Purchasing Agent
   6. Accountant
   7. Manager, Personnel
   8. Personnel Clerk
   9. Clerk, General

B. Scientist
   1. Chemist, Analytical
   2. Chemist, Organic
   3. Physicist

C. Engineers
   1. Electrical Engineer, Power
   2. Industrial Engineer
   3. Engineering Liaison Man
   4. Mechanical Engineer
   5. Engineer Scheduler (Planner)
   6. Aerospace Engineer
   7. Ceramic Engineer
   8. Chemical Engineer
   9. Metallurgical Engineer
   10. Mining Engineer
   11. Civil Engineer
   12. Illuminating Engineer
   13. Architectural Engineer
   14. Engineering and Science Technician
   15. Draftsman

D. Technicians
   1. Mathematical Technician
   2. Metallurgist, Assistant
   3. Quality Technician

E. Craftsmen
   1. Electrician Foreman
   2. Master Mechanic, Maintenance
   3. Master Tailor
   4. Tool Designer
   5. Die Maker
   6. Tool Maker
   7. Tool and Die Foreman
   8. Foreman, Artificial Limb Fabrication

F. Skilled Workers
   1. Machinist
   2. Pattern Maker, Plastics
   3. Milling Machine Set-Up Man
   4. General Assembler
   5. Layout Man
   6. Gear-Cutting Machine Setup Operator, Tool
   7. Buffing Line Setup Man
   8. Shear Setup Man
   9. Press Operator, Heavy Duty
   10. Calibrator, Resistor
   11. Calibration Checker I
   12. Calibration Checker II
   13. Electric Motor Analyst
   14. Camera Repairman
   15. Instrument Maker

G. Semi-Skilled Workers
   1. Mixer, Iron and Steel
   2. Clarifier Operator
   3. Pyrometer Man
   4. Bessemer Converter Blower
   5. Oxygen Furnace Operator
   6. Charging Machine Operator
   7. Cupola Charger
   8. Die Casting Machine Set-Up Man
   9. Casting Operator
   10. Die-Setter
   11. Coiler Operator
   12. Table Operator
   13. Draw-Bench Operator
   14. Hoop-Flaring and Coiling Machine Operator
   15. Rifter
   16. Set-Up Man, Molding and Core-Making
   17. Core-Maker, Pipe
   18. Stone Grader
   19. Plater, Electroplater
   20. Mill Hand, Plate Mill
   21. Die Barber
   22. Cathode Maker
   23. Crystal Cutter
   24. Carbon Setter
   25. Blender

26. Cheese Blender
27. Blending Plant Operator
28. Dividing Machine Operator
29. Ball Machine Operator
30. Binder Selector (Tobacco)
31. Digester Operator
32. Carbon Paper Coating Machine Set-Up Man
33. Extruder Operator
34. Chip Mixing Machine Operator
35. Compounder, Cork
36. Cork Grinder
37. Pole-Peeling Machine Operator
38. Banbury-Mix Operator
39. Beater Engineer
40. Bleacher Man, Pulp

H. Unskilled Workers

1. Mixer, Diamond Powder
2. Batch and Furnace Man
3. Baker, Beads
4. Clay Roaster
5. Bench Grinder
6. Air Conditioning Coil Assembler
7. Model Builder
8. Hopper Man
9. Cannery Worker
10. Laborer, Cheesemaking
11. Basket Filler
12. Core Treater
13. Bleacher
14. Four-Corner-Stayer Machine Operator
15. Bindery Worker
16. Banbury-Mix Helper
17. Heel Builder, Hand

MARINE SCIENCE

RESEARCH

These occupations explore, survey, and analyze the physical, chemical, biological, and geophysical aspects of the marine environment. Personnel in this job family are highly trained and may work on shore, underwater, or on the surface.

- Physical Oceanography
- Aquatic Biology
- Meteorology
- Marine Hydrology

MINERAL AND CHEMICAL EXTRACTION

These Occupations explore, assay and extract minerals and chemicals from sea water and the ocean floor.

- Dredgeman
- Mining Engineers
- Metallurgical Engineers
- Electrochemical Engineers
- Extracting Plant Personnel

OFF-SHORE DRILLING

These occupations explore, survey, and drill for petroleum and natural gas in open water above the continental shelf from a floating or stationary rig.

- Surveyors
- Seismographers
- Drillers
- Roughnecks
- Roustabouts
- Tool Pushers
- Floorman
- Rig Builder
- Pumper

FISHING

These occupations locate fisheries and harvest fish and other marine produce. Occupations in this job family vary from unskilled labor to technical skills

- Fisherman
- Sponge Gatherer
- Kelp Cutters
- Finfish Processing Plant Personnel
- Shellfish processing Plant Personnel
- Shellfish Dredger

AQUACULTURE

These occupations cultivate marine life in a controlled environment. Personnel in this job family may be employed in a privately owned finfish or shellfish farm or work in a government operated fish hatchery.

- Finfish Farm Personnel
- Shellfish Farm Personnel
- Fish Culturist
- Fish Hatcher Personnel

MARINE TECHNOLOGY & ENGINEERING

These occupations design & construct surfaje and underwater vessels and instruments used for marine exploration & exploitation. Some personnel in this job family may operate a variety of electronic sensory and data collecting instruments

- Marine Architecture
- Marine Drafting
- Marine Engineering Personnel
- Diver
- Electronic Specialist

Marine Science continued

SURFACE AND ON-SHORE SUPPORT

These occupations include a wide range of support personnel who process, market, and distribute marine produce, operate, maintain, and repair vessels of all kinds, work in laboratories or computer centers.

- Marine Life Processing and Distributing Personnel
- Laboratory Personnel (Research & Quality Control)
- Vessel Operators
- Vessel Repair Personnel
- Vessel Servicing Personnel

MARINE SCIENCE CLUSTER

RESEARCH
- Physical Oceanography
- Aquatic Biology
- Meterology, Marine
- Hydrology

MINERAL & CHEMICAL EXTRACTION
- Dredgeman
- Mining Engineers
- Metallurgical Engineers
- Electrochemical Engineers
- Extracting Plant Personnel

OFF-SHORE DRILLING
- Surveyors
- Seismographers
- Drillers
- Roughnecks
- Roustabouts
- Tool Pushers
- Derrickman
- Floorman
- Rig Builder
- Pumper

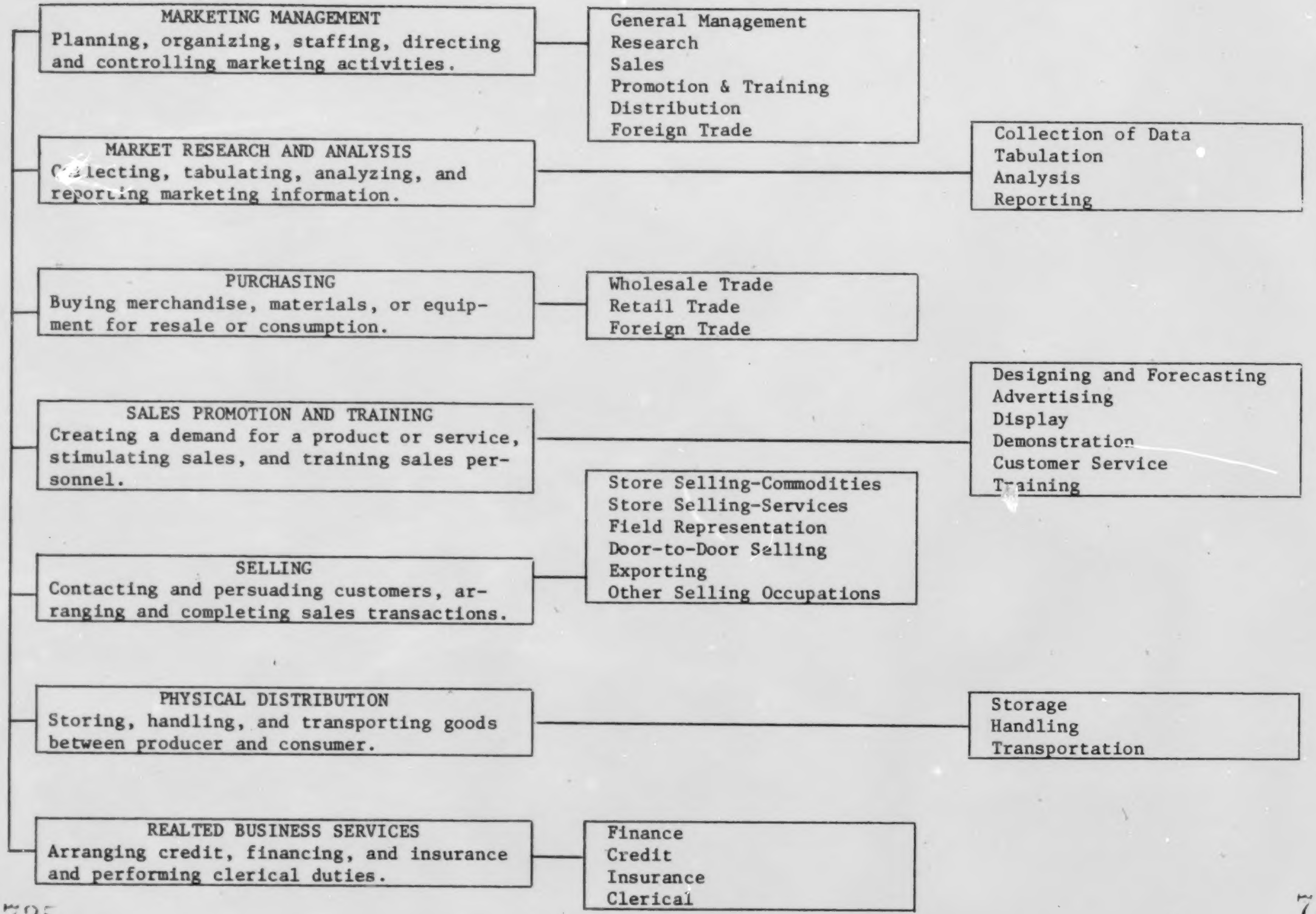
FISHING
- Fisherman
- Sponge Gatherers
- Kelp Cutters
- Finfish Processing Plant Personnel
- Shellfish Processing Plant Personnel
- Shellfish Dredging

AQUACULTURE
- Finfish Farm Personnel
- Shellfish Farm Personnel
- Fish Culturist
- Fish Hatchery Personnel

MARINE TECHNOLOGY & ENGINEERING
- Marine Architecture
- Marine Drafting
- Marine Engineering Personnel Diver
- Electronic Specialist

SURFACE & ON-SHORE SUPPORT
- Marine Life Processing & Distributing Personnel
- Laboratory Personnel (Research & Quality Control)
- Quality Control
- Vessel Operators
- Vessel Repair Personnel
- Vessel Servicing Personnel

B-46
MARKETING & DISTRIBUTION



MARKETING MANAGEMENT
Planning, organizing, staffing, directing and controlling marketing activities.
- General Management
- Research
- Sales
- Promotion & Training
- Distribution
- Foreign Trade

MARKET RESEARCH AND ANALYSIS
Collecting, tabulating, analyzing, and reporting marketing information.
- Collection of Data
- Tabulation
- Analysis
- Reporting

PURCHASING
Buying merchandise, materials, or equipment for resale or consumption.
- Wholesale Trade
- Retail Trade
- Foreign Trade

SALES PROMOTION AND TRAINING
Creating a demand for a product or service, stimulating sales, and training sales personnel.
- Designing and Forecasting
- Advertising
- Display
- Demonstration
- Customer Service
- Training

SELLING
Contacting and persuading customers, arranging and completing sales transactions.
- Store Selling-Commodities
- Store Selling-Services
- Field Representation
- Door-to-Door Selling
- Exporting
- Other Selling Occupations

PHYSICAL DISTRIBUTION
Storing, handling, and transporting goods between producer and consumer.
- Storage
- Handling
- Transportation

REALTED BUSINESS SERVICES
Arranging credit, financing, and insurance and performing clerical duties.
- Finance
- Credit
- Insurance
- Clerical

MARKETING & DISTRIBUTION CURRICULUM UNIT
Job Titles

A. Marketing Management
  1. Retail Store Owner
  2. Store Manager
  3. Supervisor (Foreman, Superintendent)
  4. Floor Manager
    a. Retail
    b. Wholesale
  5. Merchandising Manager
  6. Wholesaler
  7. Market Master
  8. Sales Manager
  9. Advertising Manager
    a. Individual company
    b. Advertising agency
  10. Packaging Director
  11. Training Supervisor
    a. General
    b. Sales Education Director
  12. Research Director
  13. Bureau of Standards Supervisor
  14. Warehouse Manager
  15. Stock Control Supervisor
  16. Traffic Manager
    a. Industrial
    b. Foreign
  17. Director of Services (Maintenance)
  18. Export Sales Manager
  19. World Trade Manager: Chamber of Commerce

B. Marketing Research and Analysis
  1. Market Research Analyst
  2. Marketing Research Worker (Assistant)
  3. Interviewer or Survey Worker
  4. Investigator
  5. Statistician
  6. Tabulator
  7. Statistical Report Writer
  8. Specialists
    a. Economist
    b. Geographer
    c. Home Economist
    d. Foreign Trade Consultant
    e. Scientist (Chemist, Physicist, etc.)
    f. Psychologist and Sociologist
    g. Systems Analyst

C. Purchasing
  1. Buyer or Purchasing Agent
  2. Assistant Buyer
  3. Broker
  4. Jobber
  5. Importer
  6. Custom-House Broker

*From An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education, Grayson County College, Sherman/Denison, Texas, Neal A. Baker, Jr., Project Director.

7. Foreign Clerk
8. Foreign-language Stenographer

D. Sales Promotion and Training
   1. Product Designer
   2. Package Designer
   3. Fashion Coordinator
   4. Advertising Assistant
   5. Account Executive
   6. Product Manager
   7. Production Manager
   8. Advertising Statistical Clerk
   9. Display Man (Window Trimmer)
   10. Billposter
   11. Sign Writer or Painter
   12. Catalogue and Brochure Coordinator
   13. Commercial Artist, Layout May, Photographer, Designer, Copywriter
   14. Sample Worker
   15. Sample Distributor
   16. Demonstrator
   17. Model
   18. Promotion Character
   19. Customer-Service Specialist
   20. Shopper (Personal or Comparison)
   21. Bridal Consultant
   22. Public Relations Personnel
   23. Home Service Representative
   24. Training Representative
   25. Recruiter
   26. Teacher

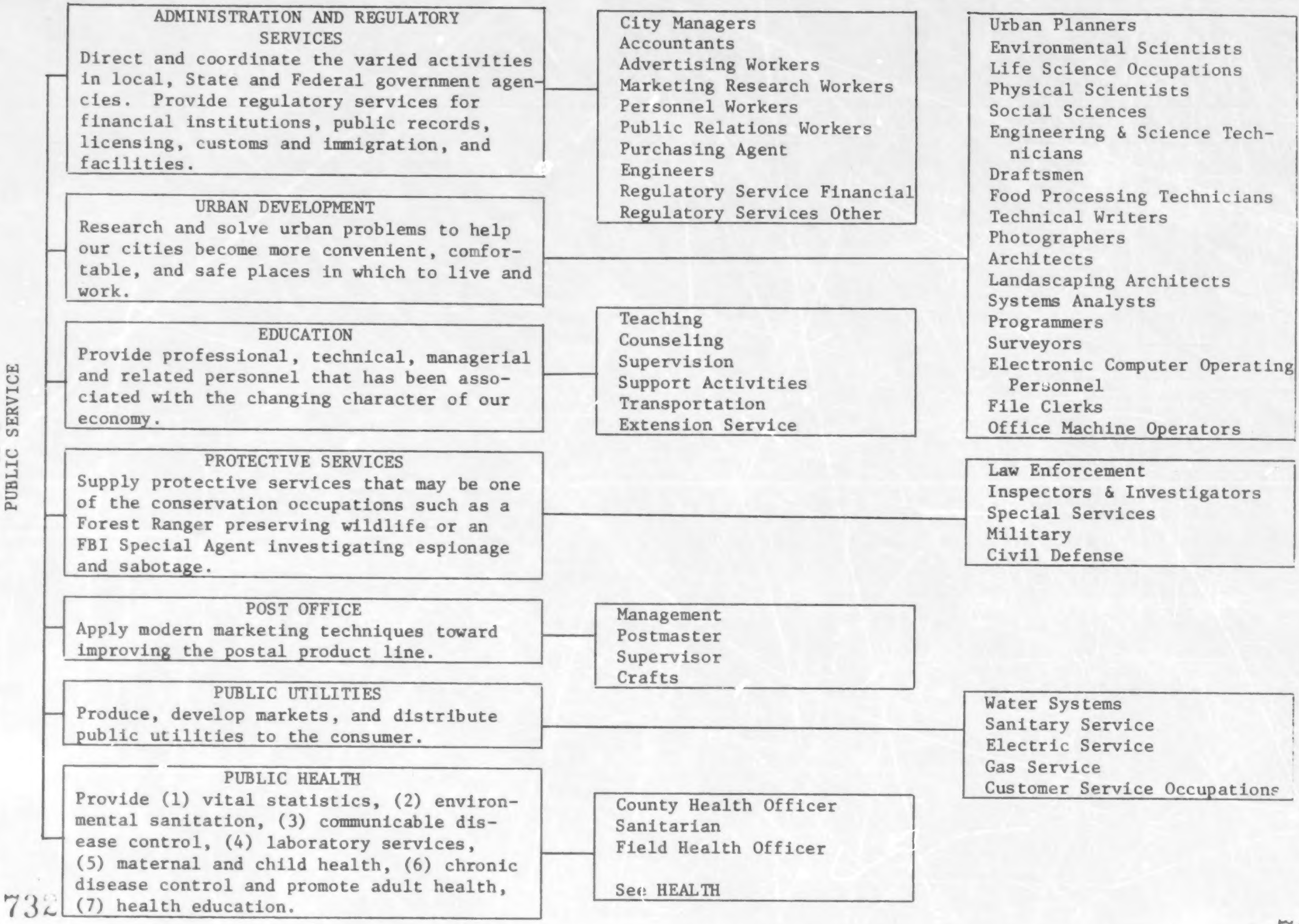
E. Selling
   1. Salesman (Store)
      a. Salesman, Commodities
      b. Salesman, Services
   2. Sales Engineer
   3. Field Contact Man
   4. Manufacturer's Representative
   5. Wholesale Field Representative
   6. Dealer
      a. Franchised Dealer
      b. Secondhand Dealer
   7. Auctioneer
   8. Solicitor
   9. Coin-Vending Machine Attendant
   10. Stamp and Coupon Redemption Clerk
   11. "Party" Saleslady
   12. Pawnbroker
   13. Peddlers
   14. Routemen
   15. Sales Clerk
   16. Exporter

F. Physical Distribution
  1. Warehouseman (Stores Laborer)
  2. Shipping or Receiving Clerk
  3. Stock Boy
  4. Material Handler
  5. Packager
    a. Hand
    b. Machine
  6. Marker
  7. Inspector
  8. Butcher
  9. Carpet Cutter, Layer, Measurer
  10. Drapery Estimator, Hanger, Measurer and Upholsterer
  11. Warehouse Traffic Man
  12. Traffic Clerk
  13. Delivery Man
  14. Mail Order Filler
  15. Cashier-Checker
  16. Import-Export Agent

G. Related Business Services

PERSONAL SERVICES

- **DOMESTIC SERVICES**
  These designations cover occupations in or about the home which render service for members of the household or their guests.
  - Housekeeper
  - Yardkeeper
  - Cook
  - Maid
  - Butler
- **LODGING & RELATED SERVICES**
  These designations cover occupations which provide accommodations to persons in homes, boarding houses, hotels, motels, etc.
  - Lodging Manager
  - Attendants
  - Maintenance Personnel
  - Maids & Porters
- **BARBERING, COSMETOLOGY, & RELATED SERVICES**
  These designations cover occupations which are concerned with rendering beauty and/or other related treatments to the body.
  - Hair Stylist
  - Cosmetologist
  - Barber
  - Weight Reducing Attendant
  - Embalmer
- **DRYCLEANING, LAUNDRY & APPAREL SERVICES**
  These designations cover occupations concerned with improving the appearance of or repairing such items as clothing, furnishings and accessories.
  - Cleaners
  - Presser
  - Laundryman
  - Apparel Repairman
  - Tailor
- **STEWARDS, ATTENDANTS & MISC. PERSONAL SERVICES**
  These designations cover occupations concerned with greeting, serving, guiding and otherwise attending to customer desires.
  - Baggageman
  - Child-Care Attendant
  - Guide
- **DOMESTIC ANIMAL CARE**
  These designations cover occupations concerned with the training and care of domestic animals.
  - Animal Trainer
  - Animal Attendant
  - Animal Groomer
  - Aquarist
- **FOOD & BEVERAGE PREPARATION & SERVICE**
  These designations cover occupations concerned with preparing food and beverage and serving them to patrons in clubs, hotels, restaurants and cocktail lounges.
  - Chefs
  - Bakers
  - Food Assemblers
  - Kitchen Personnel



B-51

PUBLIC SERVICE

ADMINISTRATION AND REGULATORY SERVICES

Direct and coordinate the varied activities in local, State and Federal government agencies. Provide regulatory services for financial institutions, public records, licensing, customs and immigration, and facilities.

- City Managers
- Accountants
- Advertising Workers
- Marketing Research Workers
- Personnel Workers
- Public Relations Workers
- Purchasing Agent
- Engineers
- Regulatory Service Financial
- Regulatory Services Other

URBAN DEVELOPMENT

Research and solve urban problems to help our cities become more convenient, comfortable, and safe places in which to live and work.

- Urban Planners
- Environmental Scientists
- Life Science Occupations
- Physical Scientists
- Social Sciences
- Engineering & Science Technicians
- Draftsmen
- Food Processing Technicians
- Technical Writers
- Photographers
- Architects
- Landascaping Architects
- Systems Analysts
- Programmers
- Surveyors
- Electronic Computer Operating Personnel
- File Clerks
- Office Machine Operators

EDUCATION

Provide professional, technical, managerial and related personnel that has been associated with the changing character of our economy.

- Teaching
- Counseling
- Supervision
- Support Activities
- Transportation
- Extension Service

PROTECTIVE SERVICES

Supply protective services that may be one of the conservation occupations such as a Forest Ranger preserving wildlife or an FBI Special Agent investigating espionage and sabotage.

- Law Enforcement
- Inspectors & Investigators
- Special Services
- Military
- Civil Defense

POST OFFICE

Apply modern marketing techniques toward improving the postal product line.

- Management
- Postmaster
- Supervisor
- Crafts

PUBLIC UTILITIES

Produce, develop markets, and distribute public utilities to the consumer.

- Water Systems
- Sanitary Service
- Electric Service
- Gas Service
- Customer Service Occupations

PUBLIC HEALTH

Provide (1) vital statistics, (2) environmental sanitation, (3) communicable disease control, (4) laboratory services, (5) maternal and child health, (6) chronic disease control and promote adult health, (7) health education.

- County Health Officer
- Sanitarian
- Field Health Officer

See HEALTH

PUBLIC SERVICE

LABOR AFFAIRS

Supply the labor demands of business and industry, protect the interests of the worker, and maintain a healthy economy.

Employment Services
Employment Compensation
Labor Standards

PUBLIC TRANSPORTATION

Provide jobs in such areas as rapid transit, railroads, buses and trucks, airports and terminals, traffic control maintenance, inland waterways operation, port authorities, turnpike and toll bridges, registration and licensing, and inspection.

See TRANSPORTATION

SOCIAL SERVICES, REHABILITATION, CORRECTION

Meet the need for organized social services, rehabilitation, and correction of a complex urban society.

Social Workers
Social Service Aides
Institutional Child Care Technician
Rehabilitation Counselors
Lawyers

PARKS AND RECREATION

Provide some form of parks and recreational facilities for year-round community activities.

See HOSPITALITY AND RECREATION

PUBLIC SERVICE

Following is a list of job families within the Public Service cluster. Each is followed by a small representative list of occupations within the job family.*

A. Administration and Regulatory Services
   1. City Managers
   2. Accountants
   3. Advertising Workers
   4. Personnel Workers
   5. Public Relations Workers

B. Urban Development
   1. Geologists
   2. Geophysicists
   3. Meteorologists
   4. Oceanographers
   5. Chemists
   6. Food Processing Technicians
   7. Photographers
   8. Programmers
   9. File Clerks
   10. Office Machine Operators.

C. Education
   1. Teachers
   2. Counselors
   3. Librarians

D. Protective Services
   1. FBI Agents
   2. Police Officers
   3. Security Guards
   4. Firefighters

E. Post Office
   1. Foreman of Mails
   2. Mail Handlers
   3. Clerical
   4. Carriers

F. Public Utilities
   1. Pumping Station Foreman
   2. Water Treatment Plant Operator
   3. Boiler Operators
   4. Watch Engineers
   5. Linemen

G. Public Health
   1. County Health Officer
   2. Sanitarian
   3. Field Health Officer

H. Laboratories

I. Public Transportation

J. Social Service, Rehabilitation, Correction

K. Parks and Recreation

*From An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education, Grayson County College, Sherman/Denison, Texas, Neal A. Baker, Jr., Project Director.

PUBLIC SERVICE OCCUPATIONS

Civil Engineer

Concerned with the planning, design and construction of all types of systems and structural specializing. Most are employed by governmental agencies.

Pay - $960-1,250 weekly.

Schooling - A B.A. Degree in civil engineering from an approved college or university is the usual minimum educational requirement. For advanced positions, a Master's Degree may be required.

High School - English, Chemistry, Mathematics, Drafting, Physics, and a Foreign Language.

College - English, Trigonometry, Chemistry, Plan Surveying, Properties, Algebra, Geometry, Drafting, Elementary Mechanics, Calculus, Physics, Engineering Graphics and Social Science.

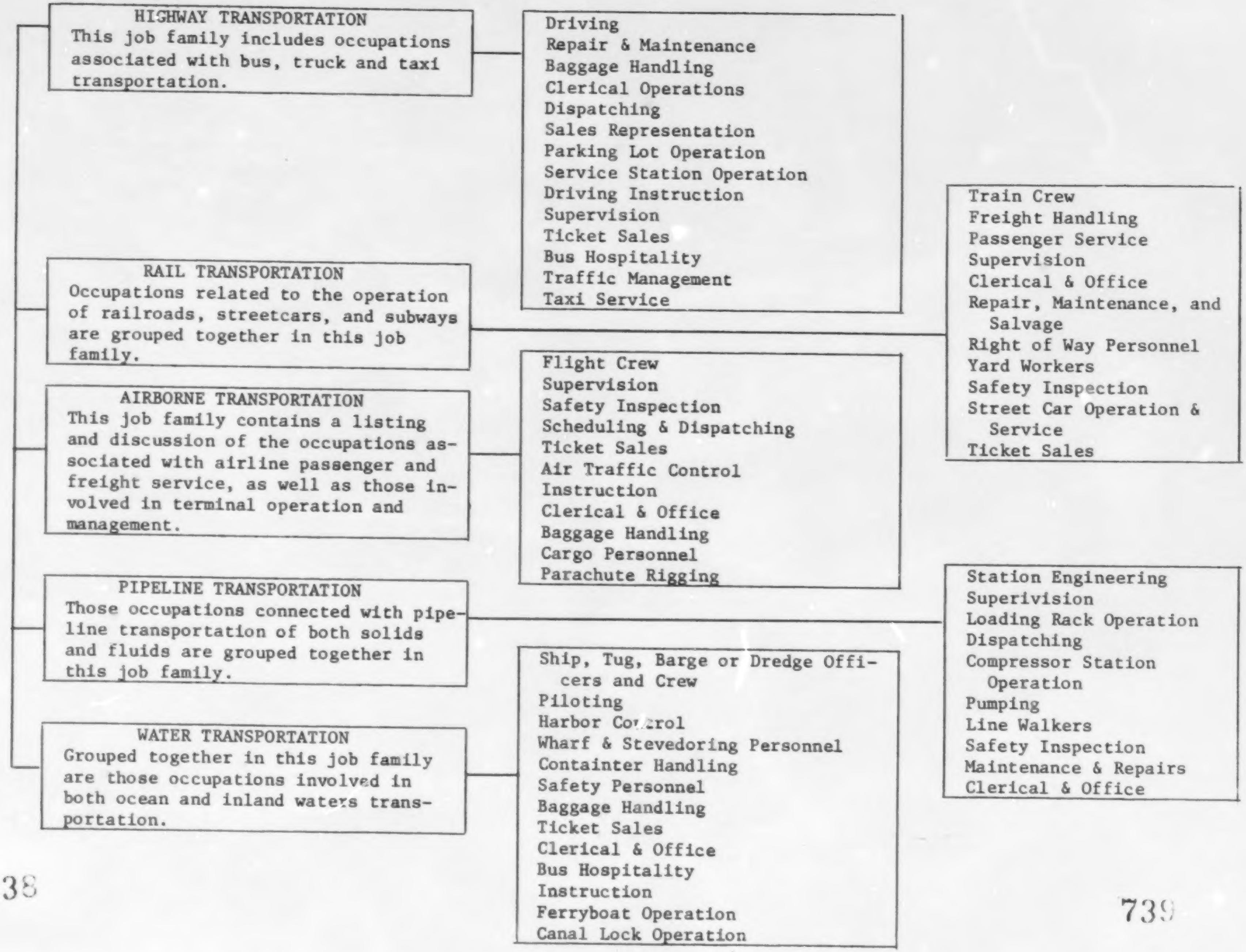
Schools - Cypress, Fullerton, Golden West, Orange Coast College, Chapman College, all have a course on Engineering Technology.

School Requirements from University of California at Irvine:

FRESHMAN (Fall)	FRESHMAN (Winter)	FRESHMAN (Spring)
Engineering 10	Technical elective	Technical elective
Math 2A - Calculus	Math 2B - Calculus	Math 2C - Calculus
Basic Science	Basic Science	Basic Science
	HSSFH elective 2	HSSFH elective 2

SOPHOMORE (Fall)	SOPHOMORE (Winter)	SOPHOMORE (Spring)
Engineering 100A	Engineering 100B	Engineering 100C
(Engr. system analysis)	(Network analysis)	(Engr. mechanics)
Math 3A	Math 3B	Math 3C
(2nd yr. Calculus)	(2nd yr. Calculus)	(2nd yr. Calculus)
Basic Science	Basic Science	Basic Science
HSSFA electives A&B	HSFFA electives A&B	HSSFA electives A&B

TRANSPORTATION



HIGHWAY TRANSPORTATION

This job family includes occupations associated with bus, truck and taxi transportation.

- Driving
- Repair & Maintenance
- Baggage Handling
- Clerical Operations
- Dispatching
- Sales Representation
- Parking Lot Operation
- Service Station Operation
- Driving Instruction
- Supervision
- Ticket Sales
- Bus Hospitality
- Traffic Management
- Taxi Service

RAIL TRANSPORTATION

Occupations related to the operation of railroads, streetcars, and subways are grouped together in this job family.

- Train Crew
- Freight Handling
- Passenger Service
- Supervision
- Clerical & Office
- Repair, Maintenance, and Salvage
- Right of Way Personnel
- Yard Workers
- Safety Inspection
- Street Car Operation & Service
- Ticket Sales

AIRBORNE TRANSPORTATION

This job family contains a listing and discussion of the occupations associated with airline passenger and freight service, as well as those involved in terminal operation and management.

- Flight Crew
- Supervision
- Safety Inspection
- Scheduling & Dispatching
- Ticket Sales
- Air Traffic Control
- Instruction
- Clerical & Office
- Baggage Handling
- Cargo Personnel
- Parachute Rigging

PIPELINE TRANSPORTATION

Those occupations connected with pipeline transportation of both solids and fluids are grouped together in this job family.

- Station Engineering
- Superivision
- Loading Rack Operation
- Dispatching
- Compressor Station Operation
- Pumping
- Line Walkers
- Safety Inspection
- Maintenance & Repairs
- Clerical & Office

WATER TRANSPORTATION

Grouped together in this job family are those occupations involved in both ocean and inland waters transportation.

- Ship, Tug, Barge or Dredge Officers and Crew
- Piloting
- Harbor Control
- Wharf & Stevedoring Personnel
- Containter Handling
- Safety Personnel
- Baggage Handling
- Ticket Sales
- Clerical & Office
- Bus Hospitality
- Instruction
- Ferryboat Operation
- Canal Lock Operation

JOB TITLES - WATER TRANSPORTATION

1. Master, Ship (Captain)
2. Mate, Ship
3. Engineer
4. Radio Officer
5. Passenger Service Personnel
    - Purser, Port Purser
    - Steward, Stewardess,
    - Scullion
6. Pilot, Ship
7. Ship's Crew
    - a. Marine Oiler
    - b. Quartermaster
    - c. Ordinary Seaman
    - d. Deckhand
    - e. Able Seaman
    - f. Boatswain
8. Maintenance & Repair
    - a. Hull Inspector
    - b. Rigger Foreman
    - c. Machinist, Outside
    - d. Machinist Foreman, Outside
    - e. Pipefitter Foreman
    - f. Pipefitter
    - g. Diesel Mechanic
    - h. Machinist, Marine Engine
    - i. Electrician
    - j. Electrician Foreman
    - k. Painter Foreman, Shipyard
    - l. Rigger
    - m. Joiner
    - n. Shipfitter
    - o. Shipfitter Foreman
9. Freight Handling Personnel
    - a. Location Man
    - b. Superintendent, Stevedoring, Header
    - c. Container Coordinator
    - d. Linesman
    - e. Coal Trimmer
    - f. Coal Handler
10. Baggage Master
11. Checker
12. Dispatcher, Tugboat
13. Gearman
14. Storekeeper
15. Supercargo
16. Wharf Personnel
17. Wharfman
18. Instructor, Navigation
19. Clerks & Office Personnel
    - a. Service Clerk
    - b. Clerk & Dispatcher, Pilot Station
    - c. Booking Clerk
    - d. Receipt & Report Clerk
    - e. Tonnage & Compilation Clerk
    - f. Incoming Freight Clerk;
20. Ticket Agent
21. Supervisory Personnel
    - a. Documentation Supervisor
    - b. Superintendent, Marine
    - c. Manager, Harbor Dept.
    - d. Port Traffic Manager, Terminal Superintendent, Float Master
    - e. Traffic Agent
    - f. Manager, Operations
    - g. Water Way Traffic Checker

JOB TITLES - TRANSPORTATION CLUSTER
(Other Than Water Transport)

A. Highway Transportation

1. Driver
2. Auto Electrician
3. Refrigerating Machine Operator
4. Auto Mechanic Chief
5. Auto Mechanic
6. Motor & Chassis Inspector
7. Tune-up Man
8. Carburetor Man
9. Front End Man
10. Auto Brakeman
11. Transmission Mechanic
12. Auto Radiator Man
13. Diesel Mechanic
14. Tire Repairman
15. Body Repairman; Bus, Auto
16. Painter, Automobile
17. Gas and Oil Man
18. Clerks
19. Parking Lot Attendant
20. Automobile Service Station Attendant
21. Driver, Taxi
22. Floorman
23. Starter
24. Schedule Maker, Taxi
25. Meter Reader
26. Taxi Serviceman
27. Supervisor, Cab
29. Instructor, Taxi
29. Driver, Bus
30. Dispatcher
31. Supervisory Personnel
32. Spotter
33. Ticket Agent
34. Baggage Man
35. Traffic Agent
36. Instructor
37. Car Carder
38. Bus Hostess
39. Crating & Moving Estimator
40. Dispatcher, Motor Vehible
41. Safety Engineer
42. Sales Representative
43. Driver Supervisor
44. Warehouse Foreman
45. Truck Foreman
46. Checker
47. Tracer

B. Rail Transport

1. Locomotive Engineer
2. Fireman, Locomotive
3. Conductor, Road Freight
4. Steward, Dining Car
5. Automat Car Attendant
6. Dining Service Inspector
7. Cook, Railroad
8. Cook, Steam Table; Waiter, Dining Car
9. Reservation Clerk
10. Car Supplier
11. Conductor
12. Porter, Pullman
13. Hostess, Train
14. Conductor, Passenger Car, Pullman
15. Lounge Car Attendant
16. Caller
17. Call Boy; Gateman, Railway
18. Information Clerk
19. Passenger Representative
20. Ticket Agent
21. Porter, Baggage
22. Baggageman
23. Overshort and Damage Clerk
24. Train Clerk
25. Freight Receiving Clerk
26. Demurrage Clerk
27. Railway Express Clerk
28. Car Clerk, Pullman
29. Roadmaster Clerk, Road Clerk
30. Railway Express Agent
31. Yard Personnel
32. Hostler
33. Switch Tender
34. Turntable Operator
35. Car Retarder Operator
36. Motorman
37. Signal Foreman
38. Towerman
39. Brakeman
40. Yardmaster
41. Tamping Machine Operator
42. Rail Flaw Detector Operator
43. Track Broom Operator
44. Ballast Cleaning Machine Operator
45. Carpenter, Bridge

46. Track Repairman
47. Way Inspector
48. Bridge Inspector
49. Track Oiler
50. Track Walker

C. Airborne Transport
   1. Air Traffic Coordinator
   2. Air Traffic Control Specialist, Station, Tower
   3. Electrician, Airplane
   4.
   5. Radio Mechanic
   6. Mechanic, Aircraft Accessories
   7. Aircraft Air Conditioning Trunk Operator
   8. Carburetor Man, Supercharger Mechanic; Aircraft and Power Plant Mechanic; Hydraulic Tester
   9. Painter, Aircraft
   10. Dope & Fabric Man
   11. Skin Man
   12. Foreman, Aircraft Cleaning
   13. Aircraft Log Clerk
   14. Foreman, Aircraft Maintenance
   15. Airport Serviceman
   16. Equipment Service Supervisor
   17. Airplane Inspector
   18. Airport Maintenance Chief
   19. Laborer, Airport Maintenance
   20. Parachute Rigger
   21. Airport Radio Officer
   22. Instructor, Personnel
   23. Schedule Analyst
   24. Trip Follower
   25. Weather Clerk
   26. Load Control Agent
   27. Cargo Agent
   28. Traffic Rate Clerk
   29. Plotting Board Operator

D. Pipeline Transport
   1. Coal Pipeline Operator
   2. Coating Inspector, Pipeline
   3. Gasman Head
   4. Foreman, Dock
   5. Gager
   6. Line Walker
   7. Loading Rack Foreman
   8. Pumpman
   9. Station Engineer, Main Line
   10. Dispatcher, Chief
   11. Dispatcher, Relay
   12. Dispatcher, Oil
   13. Foreman, Pipeline
   14. Foreman, Field Pipelines

TRANSPORTATION OCCUPATIONS

Pilots and copilots usually have an air transport or commercial pilot's certificate from the FAA when they begin work. As a rule, airline pilots and copilots begin as flight engineers.

Young people may obtain pilot training from military or civilian flying schools. Physical requirements are high. They must have 20/20 vision, good hearing, and no physical handicaps that prevent quick reaction.

Qualifications:	Hold a commercial license and instrument rating, numerical ability, ability to understand and present ideas clearly, color discrimination, manual dexterity, eye-hand-foot coordination, minimum of 500 hours flight time, and at least 24 years of age.
Schooling:	Basic studies such as typing, English, speech, physics and algebra. Must earn high school diploma. (J.C.) Math, science, aeronautics and/or air transportation. Flight school, many hours of ground and flight training.
Salaries:	Salaries range from $650 for an airline pilot trainee to $2400 a month and more for veteran pilots. There are premiums for some overseas flight routes. Salaries apply nationwide with only minor variations.
Fringe Benefits:	Are available depending on place and length of employment. Some benefits are as follows: retirement plans, stock options, free life insurance, vacations from 2 - 4 weeks, and health plans.

TRANSPORTATION OCCUPATIONS

Merchant Marine Officers

The fastest and surest way of becoming a well-trained officer is through an established training program. Such programs are available at the U. S. Merchant Marine Academy at King Point, New York, and at five state Merchant Marine Academies: California Maritime Academy at Vallejo, CA.; Marine Maritime Academy at Gastine, Maine; Massachusetts Maritime Academy at Hyannis, Mass.; Texas Maritime Academy at Galveston, Texas; and New York Maritime College at Fort Schuyle, New York.

Most academies offer 3 or 4 year courses in Nautical Science or Marine Engineering. After Coast Guard examinations are passed, licenses are issued for either third mate or third assistant engineer.

Nature of the Work:

Captain--has complete authority and responsibility for ship operation, including discipline and order, and the safety of the crew, passengers, cargo and vessel.
Pay rate for captain in 1972, for ship between 12,000 and 17,000 tons was $2,443 a month.

Deck Department:

Chief Engineer--supervises the engine department and is responsible for the efficient operation of engines and other mechanical equipment.
Pay rate as of 1972, was $2,253 a month.

First Assistant Engineer--supervises engine room personnel and directs operations.
Pay rate as of 1972, was $1,347 a month.

Second Assistant Engineer--has charge of the boiler and associated equipment such as the water feed system and pumps.
Pay rate as of 1972, was $955 a month.

Third Assistant Engineer--supervises the operation and maintenance of the lubrication system and a variety of other engine room equipment.
Pay rate as of 1972, was $858 a month.

Other Officers:

Radio Officer--keeps contact with the shore and other vessels, and also maintains radio equipment.
Pay rate as of 1972, was $1,056 a month.